TECHNOLOGY DEPT.

PUBLIC LIBRARY
APR 2 8 1943
DETROIT

'It's Important to Know In Time'

Member Associated Business Papers, Inc.; Audit Bureau of Circulations.

The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

Production Tools for Victory — AN INTERNATIONAL INSTITUTION — SUBSCRIBERS ALL OVER THE WORLD — Technical Governmental

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1943, by Business News Publishing Co.

'Written To Be Read on Arrival'

Issued Every Monday at Detroit, Michigan

APRIL 26, 1943

Vol. 38, No. 17, Serial No. 736
Established 1926.

Inside Dope

By George F. Taubeneck

Attention: Col. Jacobowitz
Is Your Service Man Being Neglected?
Two Letters
Aunt Minnie on the OPA
Grand Opera Pays For Subscription
Air-Conditioned Submarines
Clothing Plentiful

Attention: Col. Jacobowitz!

Last week this column reported that the Army has more calls for refrigeration service than it can currently supply. Lt. Col. Jacobowitz of the Army Quartermaster Corps. was quoted on this subject.

Also reported was the activity of the Commercial Trades Institute in Bloomington in training hundreds of refrigeration service men from candidates-in-uniform sent there by various branches of the Army.

We seem to have started something. Last week in Chicago, at the All-Industry Meeting, man after man came up to us to tell us about a former employe—or son or brother—now in the Army who is working at anything but refrigeration.

Why, these good men all wanted to know, is the Army training refrigeration service men when experts of many years' experience are learning to be cooks, clerks, latrine-diggers, and jeep drivers?

What's more, these subscribers all seemed to be a little sore at us for not doing something about it.

Is Your Service Man Being Neglected?

Gentlemen, the Army is entirely out of our reach. We can go to bat for you, as best we can, with the WPB and the OPA. But the Army is strictly none of our business. They know what they are doing, and we don't. And what they are doing is the most important thing in the world—for you and for us and for your sons, brothers, and former employes.

We can say that this Army demand for refrigeration-trained men has developed suddenly, according to Col. Jacobowitz. Refrigeration, as usual, has been the unnoticed stepchild. And, as in the case of WPB, it has remained unnoticed and neglected until suddenly people had refrigeration problems on their hands.

All we can do is pass on this issue of the NEWS to Col. Jacobowitz, and ask you to send us the names and military addresses of all the well-trained, experienced refrigeration men in the Army whom you know about. We'll pass them on.

Nothing may ever come of it. These men may be invaluable parts of their present units, and hence it might be simpler to train a refrigeration service man from scratch than to take one out of a unit where he has become a necessary man.

But it's worth a try.

We do hope somebody in authority will tip off the classification people at the induction centers to look for trained refrigeration men in the future, however. Judging by our mail, a great many are being drafted currently.

Two Letters

Below appear two letters along this line. We print them here as samples:

Rash-Saville-Crawford
1712 Logan Street
Cincinnati, Ohio

Editor:

Your April 12 issue of AIR CON-

(Concluded on Page 2, Column 1)

Whiteside Will Head Up WPB's Civilian Activity

Nelson Directs Him To Initiate Surveys Of People's Needs

WASHINGTON—Arthur D. Whiteside, president of Dun & Bradstreet, has been appointed Vice Chairman of the War Production Board in charge of civilian requirements. Mr. Whiteside has had previous executive experience with the government in the OPM and NRA.

Mr. Whiteside reports directly to Donald Nelson. Joseph Weiner, chief of the Office of Civilian Supply of the WPB, reports to Charles E. Wilson, WPB Vice Chairman. Mr. Weiner has been urged by Mr. Whiteside to remain at his post. The tangled lines of authority are not yet straightened out.

Inasmuch as Mr. Whiteside's appointment is said to have been recommended by President Roosevelt, it is thought likely that the Dun & Bradstreet chief might become head of an independent Office of Civilian Supply, should Congress pass the Maloney Bill.

This bill, which has been reported out of committee favorably, would set up an independent Office of Civilian Supply with stronger powers as a claimant agency, and with representation in the War Manpower Commission.

Mr. Whiteside will immediately initiate studies of all essential civilian industries to determine their material reqiurements. He has been promised prompt action in alleviating supply difficulties which his surveys may reveal.

"We intend to carry this type of study and action into all branches of essential civilian industry and services," Mr. Nelson declares. "They can be carried out in the garage, plumbing, restaurant, textile, laundry and all other types of civilian lines.

"We will find out what are needed in the way of repair parts and all types of supplies to assure the industry's operations at greatest efficiency. The Office of Civilian Supply will be a forceful claimant agency for civilians, and will be among the 16 existing agencies making claims upon WPB for the nation's available supplies of materials."

Servicemen Remain On 'Essential' List

WASHINGTON, D. C.—In the "revised list of essential industries and activities as of April 17, 1943" issued by the War Manpower Commission there is no direct change in the status of refrigeration repairmen, but there is a qualifying phrase that may be of some significance.

"Repair services" still include the "repair of . . . refrigerators . . .; electrical appliances and motors . . ." At the end of the listing under this classification it is stated:

"It is intended that consideration be given only to individuals qualified to render all-around repair services on the types of equipment specified herein as required for the minimum essential needs of the community."

More Price Orders Loom for Various Household Goods

NEW YORK CITY—Decided improvements in the recently revised MPR-139 (used mechanical refrigerators) were verified by chief of the OPA appliance division, Thomas P. Kelly, in a talk to a group of New York dealers last week.

At the same time he announced "as likely" specific dollars-and-cents ceilings for the 600,000 ice boxes authorized for production this year, as well as for used electric washers.

In his talk, Kelly highlighted the more important rulings in the revised MPR-139, outlined by the NEWS in the March 29 issue.

He said that by lowering the guarantee period from one year to 90 days dealers would be able to offer for sale large numbers of refrigerators which, before the revision, could not be moved because of prohibitive reconditioning costs.

While the new pricing order will make it easier for dealers to operate, Kelly stressed the fact that OPA will be more strict in enforcing ceilings.

Until the revision of MPR-139, OPA found it difficult to cope with the black market situation, but by applying the same regulations to individuals, dealers who have evaded ceiling prices in the past by placing refrigerators in private homes will be forced to abandon this practice, Kelly's talk brought out.

Stating that the new order would

(Concluded on Page 3, Column 2)

Leadership Praised

JOHN WYLLIE, Jr.
As the retiring president of Rema he was active in the Refrigeration Industry Wartime Conference in which Rema took part. Mr. Wyllie won the praise of the Rema membership for his stewardship of the association in a particular trying period, and for his work in assisting in the formation of the Refrigeration War Council, of which he is chairman.

'War Council' of Industry Is Ready For Future Action

CHICAGO—A "groundwork for future action" for the benefit of the refrigeration industry as a whole has been laid by the establishment of the National Refrigeration War Council, it was reported to the Refrigeration Industry Wartime Conference by John Wyllie, Jr., general manager of Temprite Products Corp., and chairman of the Council.

"As Sterling Smith of the WPB brought out in his remarks to you, we are not one industry, but rather many parts of an industry that must be brought together for effective action," Mr. Wyllie stated.

"It must be emphasized that the War Council is not a new association in any sense," he continued. "Rather, it marks the bringing together of the various associations within the industry for discussions of matters of mutual concern."

The associations that participated in the formation of the War Council included the Air Conditioning & Refrigerating Machinery Association, the Standard Refrigeration Compressor Association, the Commercial Refrigerator Manufacturers Association, the Refrigeration Equipment Manufacturers Association, the National Refrigeration Supply Jobbers Association, the Refrigeration Serv-

(Concluded on Page 3, Column 1)

Costs Allowed On Refrigerator Storage By OPA

Extra $5 on Boxes Held Between May 1 and Dec. 31 This Year

WASHINGTON, D. C.—Manufacturers and distributors who have inventories of new household mechanical refrigerators frozen by WPB orders will be authorized to make a charge for the warehousing services, the Office of Price Administration announced April 19.

This charge will be the amount accrued under a previous authorization, plus $5 per refrigerator during the period May 1, 1943 to Dec. 31, 1943, and plus $10 per refrigerator after Dec. 31, 1943.

The previous authorization was 1% per month beginning Feb. 14, 1942, or the date on which the refrigerator was placed in the warehouse, whichever is later, and Sept. 13, 1942.

OPA emphasized these two points, which will be covered in the forthcoming order:

1. Under no circumstances may any warehousing service charge be passed on to the ultimate consumer who purchases one of these refrigerators for use in his own home. The inventories of mechanical refrigerators still frozen by WPB have been earmarked for the Army, Navy, National Housing, Lend-Lease and other claimant agencies. Hence, the cost of living will not be affected by this OPA move.

2. Building contractors engaged in war housing projects, and other wholesale consumers can, for their current refrigerator requirements, avoid the service charge to be author-

(Concluded on Page 20, Column 2)

CMP 'Repair Plan' For Plants Only

DETROIT.—Recent announcement by the WPB to the effect that automotive replacement parts and automotive maintenance equipment have been removed from the list of items to the purchase of which preference ratings, assigned under Controlled Materials Plan Regulations Nos. 5 and 5A, may be applied, is of significance to the refrigeration industry because of the reasons given for this move.

CMP Regulation Nos. 5 and 5A assign rating for "maintenance repair and operating supplies." It was pointed out, in the explanation of these amendments, that the "MRO" regulations, as they are known, are

(Concluded on Page 20, Column 1)

Sterling Smith Gives the WPB Angle

Sterling Smith, Chief, Refrigeration and Air Conditioning Section, WPB, was caught by the candid camera of Irving Alter of the Harry Alter Co., Chicago, while talking informally to the National Refrigeration Supply Jobbers Association meeting in Chicago. The meeting was held in conjunction with the Refrigeration Industry Wartime Conference, and Mr. Smith's address at the Conference is published in this issue.

This Issue - - Has Two 'Musts'

This issue is what an editor would call "unbalanced" as to editorial content, because much of it is devoted to reports of two talks made during the recent Refrigeration Industry Wartime Conference in Chicago.

But the editors believe that the subject matter of these talks is more important than anything else that might have been published in the issue. One is "A General Picture of the Refrigeration and Air Conditioning Section of WPB and Its Operation" by Sterling Smith, Section Chief, which gives for the first time any kind of a complete picture of who the people are in this government agency so important to the industry, and how they operate.

The other talk "The Coming Crisis in Refrigeration Service," by Paul Reed, gives a factual and graphic picture of the seriousness of the service manpower problem. It is a matter vital not only to the industry—but to the health and welfare of the nation.

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

DITIONING & REFRIGERATION NEWS arrived this morning. On reading your "Inside Dope" column wherein you state that the Army could not get enough refrigeration men it brings to my mind the fact that perhaps the Army is overlooking the refrigeration men that already have been inducted into the service.

The reason for making this statement is that I maintain correspondence with all the men who have left our employment to enter our armed services and in no case are any of these men being used in any connection with refrigeration.

The first man to enter the service was one of our very best trained servicemen who joined the Marines in December, 1941 and since that time there has been quite a number of our other employes that have been called to the colors and in almost every instance these men have asked to be assigned with refrigeration as they felt in that way they would be continuing their education in connection with this essential industry.

The following is their present employment to the best of my knowledge:

1. Pfc in Marine Corps serving in regular battle duty and recently relieved from service on Guadalcanal.
2. Gunner on Naval vessel.
3. Corporal in Medical Corps.
4. & 5. Privates in Para Troops.
6. S2/C in Seebees.
7. Private assigned to driving a jeep.
8. Fireman in the Merchant Marine.

Certainly with the previous training that these men had it would seem that they would be assigned to refrigeration work if the demand is as great as it seems to be.

The majority of local draft boards are continuing to draft men from our industry and seem to pay little, if any, attention to the fact that we are considered an essential industry and at the same time these men are not being assigned to refrigeration work even though your statement says the Army cannot get enough refrigeration men. Why?

R. M. Saville, President.

W. E. Saylor
2 Warren Street
Ellenville, N. Y.

Editor:

Have just received the April 12 issue of AIR CONDITIONING & REFRIGERATION NEWS and was very much surprised when I read my favorite column, "Inside Dope," referring of course to the article, "Army Can't Get Enough Men."

I have been trying to find a niche in this army set-up for more than 17 months but cannot get to first base. Have filed seven applications, one in Washington and six at various Army bases but have not received a reply from any of them.

I have worked at the refrigeration service business for 15 years and would like very much to find a place in the Army's refrigeration set-up where I could put my years of experience to work for Uncle Sam.

Will you please be kind enough to give me the address of Lt. Col. B. Jacobowitz, Director of Personnel Office of the Quartermaster General? Or better still, do you know of any one whom I could contact personally regarding this matter?

Thanking you for your courtesy in the matter, I am,

W. E. Saylor

Our service on all properly rated orders will surprise you. Prompt shipments, parts, supplies, tools, tubing.

TED GLOU
CENTRAL SERVICE SUPPLY CO.

409 E. Jefferson St., Syracuse, N. Y. Phone 5-4000
209 Jefferson Ave., Scranton Pa. Phone 3-4000

Aunt Minnie on the OPA

Apparently the popular Phil Redeker, managing editor of the NEWS, comes from a writing family. At least, his Aunt Minnie out in California can write.

As exhibit "A" we present the following quotation from a "column" in an Elgin, Illinois, newspaper:

"A week ago, Ernie Redeker, president of the Kerber Packing Co., expressed a slab of bacon to his sister, Mrs. Minnie Redeker Kramer, former Elginite now residing in Los Angeles. Her acknowledgement, while it has a laugh in it, does not disguise her appreciation:

" 'Dear Brother: A card came from the express company saying there was a package there and when I went by I thought at first the slab was a tombstone, but when I saw nine employes drooling over it, I knew it was a hunk of bacon. The reason I was positive it was bacon when I unwrapped it was because years ago before the war, I once had a piece of bacon.

" 'Out here in California, we don't have meat any more unless we chew off the ear of an OPA 'expert,' which we are tempted to do daily. They don't taste bad, sort of like veal, because the 'experts' are so young and not dry behind the ears yet . . . Sometimes, too, we get so mad we eat one of their sheepskins (they all have sheepskins because they are just out of law school and have 'Frankfurter' on their diplomas; not the meat kind, you understand, but the legal variety).

" 'Well, anyway, we are tickled to death with that piece of bacon! We have already had three offers for it, two from museums and one from a sideshow. We are going to give a tea and let people look at it. We may even charge admission. And then, some day after we have calmed down a little and have got ourselves under control so we don't gobble and choke to death, we are going to EAT a slice of it.

" 'Bless all of you! All southern California is following us around enviously because of your gift. Lipsmackingly yours . . . Minnie.' "

Grand Opera Pays For Subscription

Girls in our subscription department were thrilled to their toes the other day when a check for $7.00 came in from Miss Lucrecia Bori, the Metropolitan Opera star.

Miss Bori wanted AIR CONDITIONING & REFRIGERATION NEWS sent for two years to a gentleman in Spain. Check-up of the records reveals that she subscribed to the NEWS for this same gentleman back in 1941, also.

You never know what to expect next in this business, but surprises like that help keep it exciting. One's imagination can really play on the theme of a grand opera star, the gentleman in Spain, and AIR CONDITIONING & REFRIGERATION NEWS.

We hope and trust he finds it useful, and that swiftly moving events will soon enable life in Spain to get back to normal.

Air-Conditioned Submarines

John A. Moroso, Associated Press correspondent, recently took a ride "aboard America's newest submarine," and reported that all of its innovations, air conditioning and "superior refrigeration" were right at the top. Wrote he:

"On the surface this ship displaces 1,500 tons and has a speed of more than 20 knots.

"She is more than 300 feet long and is a streamlined craft that beats anything yet produced by the United States.

"Contrasting her with our old submarines she has these features:

"Air-conditioning—believe it or not.

"Superior refrigeration—new compartments make it possible to store fresh foods for long trips.

"Washing machines that produce clean dry clothes.

"Sun lamps for men who often go many weeks without seeing the sun.

"Shower baths for officers and men—a novelty on some surface ships.

"Toilets for both officers and men.

"These submarines are mostly stainless steel—bright and clean. They have built-in radios, phonographs and libraries."

Clothing Plentiful

Despite all informed opinion to the contrary, rumors persist that clothing rationing will come at any time. Women are still buying extravagantly and crazily because of those rumors.

We say to you frankly and flatly that **there are no plans for the rationing of clothes. Wool stocks now** on hand are the largest in our history, and ships continue to return from Australia loaded with their abundant clips.

There is also a backlog of cotton remaining. Finished stocks of cloth are high.

There are plans in the works for the gradual simplification of clothing. Shorter skirts (oboy or migod, depending on your point of view!), shorter heels, fewer frills, greater uniformity, no evening clothes (who wears 'em now, anyway?).

C O O P E R A T I O N W I N S T H E W A R

WOLVERINE SALUTES
MEMBERS OF N.R.W.C.

A step in the right direction has been achieved through the recent formation of the National Refrigeration War Council which has brought together all the leading organized groups representing the refrigeration and air conditioning industry.

The associations represented include: Air Conditioning & Refrigeration Machinery Assn., American Society of Refrigerating Engineers, Commercial Refrigerator Mfrs. Assn., Refrigeration Equipment Manufacturers Assn., Refrigeration Service Engineers Society, Refrigeration Supply Jobbers Assn., and the Standard Refrigeration Compressor Assn.

The purpose of this voluntary organization is to ". . . bring into focus and make available to our government the cumulative knowledge and experience of the industry so that its complete resources may most effectively be utilized for the winning of the war and for the well-being of the public."

Here then are the best brains, manpower, and resources of the refrigeration industry directing their unified efforts toward a common cause.

N.R.W.C.! Wolverine salutes your great purpose! We are confident that your organization will contribute much to the successful prosecution of the war.

JOHN WYLLIE Jr.
Chairman

CALUMET AND HECLA CONSOLIDATED COPPER COMPANY
WOLVERINE TUBE DIVISION
Seamless Copper — Brass
1413 CENTRAL AVENUE DETROIT, MICHIGAN

HERE'S PROTECTION FOR CRITICAL MEAT SUPPLIES

Point rationing of meat has emphasized again the importance of protection of all available supplies. To meet the needs of our fighters, our allies and our civilian population it is vital that waste and spoilage be prevented.

Avrgaire, Penn's efficient refrigeration control, maintains uniform temperature and holds humidity at the correct level to prevent spoilage and loss through shrinkage or excessive sliming. Designed for "above-freezing" jobs in walk-in coolers and reach-in cases, Avrgaire delays defrosting when the box is under an exceptional load, until proper cooling temperature is restored—avoids erratic short cycling.

When existing controls cannot be made to function efficiently we are prepared to supply Avrgaire, and other Penn refrigeration controls, to meet the need for food preservation, under established priority rules. *Penn Electric Switch Co., Goshen, Ind.*

PENN
AUTOMATIC CONTROLS
FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Luscombe Is Rema President; Alter Elected N.R.S.J.A. Head

CHICAGO—R. H. Luscombe of Penn Electric Switch Co., is the new president of the Refrigeration Equipment Manufacturers Association, having been elected at the recent meeting of Rema held here in conjunction with the Refrigeration Industry Wartime Conference.

A. B. Schellenberg of Alco Valve Co. is the new vice president of the association. Other new officers are J. A. Strachan, the Weatherhead Co., treasurer; and F. J. Hood, Ansul Chemical Co., secretary. R. Kennedy Hanson is the executive secretary.

The new board of directors is made up of the following men: George R. Allen, Mueller Brass Co.; A. R. Benua, The Ebco Mfg. Co.; Ivan Corcoran, Square C Co.; T. C. Davis, The Dayton Rubber Mfg. Co.; E. M. Flannery, The Bush Mfg. Co., Harry W. Jarrow, Jarrow Products Co.; J. W. Krall, Detroit Lubricator Co.; R. F. Moody, Wolverine Tube Division, Calumet & Hecla Copper Co.; Frank K. Smith, Tecumseh Products Co.; and M. B. Williston, Acme Industries, Inc.

No announcement was made with regard to any of the other actions taken during the meeting in Chicago, and there was no announcement made of the probable date of the next meeting of Rema.

CHICAGO—Harry Alter of the Harry Alter Co., Chicago, is the newly-elected president of the National Refrigeration Supply Jobbers Association, having been elected at the meeting held in Chicago in conjunction with the Refrigeration Industry Wartime Conference.

Vice president of the organization is H. W. Small, the Thermal Co., St. Paul. H. W. Blythe of the H. W. Blythe Co., Chicago, continues as secretary-treasurer, and Fred B. Hovey of Chicago as executive secretary.

The board of directors is comprised of the following: Alex H. Holcombe, Jr., Victor Sales & Supply Co., Philadelphia (immediate past president); Peter H. Askew, Refrigeration Supplies Distributor, Los Angeles; L. C. Batho, Manning Equipment, Ltd., Halifax, N.S., Canada; R. M. Graves, Bowen Refrigeration Supplies, Inc., Atlanta; H. C. McCloud, Williams & Co., Cincinnati; H. R. McCombs, McCombs Refrigeration Supply Co., Denver; Joseph M. Mideke, Mideke Supply Co., Oklahoma City; J. M. Oberc, J. M. Oberc, Inc., Detroit; R. W. Sheperdson, Standard Supply, Inc., Worcester, Mass.

No report on the other proceedings of the group are available now.

'Groundwork for Action' Seen In War Council

(Concluded from Page 1, Column 4)

ice Engineers Society, and the American Society of Refrigerating Engineers.

"We have not progressed very far as yet in the solution of any problems, but we have got together, which is a very important step," Mr. Wyllie commented.

The head of each association and one other representative for each group sits in at the Council sessions.

"We have a group now that is rather truly representative of the industry at the disposal of the government agencies for whatever they might ask of us, and there is set up a means of accomplishing some future objectives."

Used Box Price Revision Pleases Trade and OPA

(Concluded from Page 1, Column 3)

be of definite benefit to dealers, he acknowledged that it was drawn up after OPA was prevailed upon by the refrigeration trade to adjust the original order which had proven unworkable.

While few ceiling prices are changed by revision, dealers attending the meeting agreed that by the reduction in the guarantee period, they would save an average of $10 on each sale. Previously the $10 was theoretically laid aside to cover service on a one-year guarantee sale.

In closing, Kelly pointed out that the only major requirement now was that a refrigerator work and that it maintain a temperature of 50° in a room at 90° F.

Look for the
"RECALIBRATOR"

The mark of a gauge that IS accurate

-and STAYS accurate

THERE are two big reasons why so many refrigeration men look for the "Recalibrator" when it comes to gauges and dial thermometers. In the first place, the "Recalibrator" means that the instrument is made by Marsh — that it offers every measure of accuracy and stamina 75 years of specialization can produce.

Even more important — especially these days when gauges face harder and longer service—the "Recalibrator" is your assurance that accuracy is locked in. For keeps.

Any gauge ever made can be knocked or jolted out of adjustment. But with the "Recalibrator", the twist of a screwdriver sets it right in just a few seconds. Unlike ordinary "adjustments", the "Recalibrator" strikes at the very root of the error—actually reestablishes the proper relation between the bourdon tube and movement to make the gauge accurate again at all points on the scale.

The "Recalibrator" is standard in all Marsh Dial Thermometers, available in all Marsh Gauges. Look for it. And look for the same kind of advanced design throughout the broad Marsh line.

JAS. P. MARSH CORP., 2067 Southport Ave., Chicago, Ill.

MARSH
Refrigeration Instruments

An Army *Moves* On Rubber
—as Well as its Stomach

TODAY ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

The part that the refrigeration industry plays in feeding our armed forces is a matter of widespread knowledge. Not so well-known is the fact that refrigeration is being used extensively in the manufacture of synthetic rubber to insure a stronger, tougher and more uniform product. Thus, war-vital food protected by refrigeration every step of the way, moves over supply lines which roll on synthetic rubber tires, manufactured by processes using refrigeration. When synthetic rubber production gets under full steam, war workers turning out guns, ships, planes and tanks will be transported to and from their jobs on synthetic rubber. The refrigeration industry adds to its part in the drive for Victory.

TOMORROW . . . . . .

Synthetic rubber promises to be of utmost importance to all of us in the post-war world. Streamlined cars will move on synthetic rubber tires which will be virtually puncture and blow-out proof. Heavy air transports, both freight and passenger, will take off and land safely on synthetic rubber. Many articles used in the home previously made of natural rubber will be made from the new synthetic product. Countless new applications to contribute to our daily lives in convenience, comfort and health, will unfold themselves. The refrigeration industry will continue to do its part in the manufacture of "man-made" rubber.

"Detroit" refrigeration products are doing their bit for Victory all over the world. Wherever there is need for refrigeration or air conditioning, there you will find "Detroit" Expansion Valves and Controls. • Today we are busy making many things, including refrigeration equipment, for all branches of our armed forces. Tomorrow we will again serve the refrigeration and air conditioning industries to the best of our ability.

DETROIT LUBRICATOR COMPANY

General Offices: DETROIT, MICHIGAN

Division of AMERICAN Radiator and "Standard" Sanitary Corporation

Canadian Representatives—Railway and Engineering Specialties Ltd., Montreal, Toronto, Winnipeg

First Official Story of WPB Refrigeration & Air Conditioning Section

Sterling Smith Tells 'Who's Who' And How the Section Operates

By Sterling Smith, Chief,
Refrigeration and Air Conditioning Section, WPB*

One reason why I am very glad to come out here and talk at this meeting is the fact that the question often arises in my mind as to whether or not you people really understand how vitally important refrigeration machinery is to the prosecution of this War. I wonder if you realize that out of 34 industries which are considered vital to the War, 22 of them could not operate at their full capacity and in some instances could not function at all without refrigeration machinery. The following are industries or segments of industries which could not function at all or operate at their full capacity without refrigeration or air conditioning equipment:

Abrasives
Airplanes and engines
Ammunitions
Cereals, foodstuffs
Chemicals
Laboratories
Machine shops
Meats, lards, etc.
Opticals, sights, etc.
Pharmaceuticals
Petroleum products
Rubber
Dairy products
Films
Food preservation
Instruments: watches, navigation, and fire control, etc.
Steel
Synthetic products: rubber, nylon, rayon, etc.
Telephone exchanges
Textiles
Transportation (perishables)
Mines

There is no need for me to tell you of the numerous processes involved in which refrigeration plays a major part. However, you will be interested in some details on a couple of important programs.

Let's take a look at airplanes and engines. Refrigeration is absolutely essential in rivet temperature control and plays an important part in engine and parts machining, which of course includes the machining of the very delicate mechanism used in variable pitch propellers. Then, too, the atmosphere in which airplanes are painted has to be controlled and of course the atmosphere in the space in which the assembly of the planes and motors takes place must be controlled. This is done to maintain precision and uniform tolerances.

Going back to the engines, test cells, within which the engines are put through their test run, must be controlled. In some instances the carburetor air is varied anywhere from 120° down to 50° F.

I do not know how many of you people are familiar with the application of refrigerating and air conditioning machinery to a wind tunnel—you all know what a wind tunnel is. However, I am not violating any confidences or confidential information when I tell you that there is in the process of being built a tremendous wind tunnel. This is sponsored by the National Advisory Committee of Aeronautics in conjunction with the Army and this project is more ambitious than any other project ever undertaken in this line.

Within this tunnel air will travel at a maximum of 500 miles per hour and it is possible to maintain this tremendous quantity of air at a temperature of 50° below zero. Right at this point I would like you to pause and think about exactly what this means.

There is required for this single installation the largest connected horsepower of refrigeration that has ever been installed in any one refrigerating plant. So you see that not only is refrigeration absolutely essential in the production of airplanes, but it is also necessary for the testing and developing of airplanes.

We all know that air power is going to play a tremendous part in the winning of the War and refrigeration and air conditioning equipment is certainly going to do its part in producing the planes, not only in the actual production, but in the developing and testing of the finished models.

Let's take another most vital program, synthetic rubber. We have all heard of the program to provide this product—there are some 100 plants or more under construction and there have been acres of newspaper space devoted to it. Do you know that it would be impossible to produce synthetic rubber without refrigeration? That is correct.

For Rubber, Gasoline

Do you know of the applications of the products of your industry to the production of synthetic rubber? Perhaps you do, but I would just like to run over them to emphasize their importance. The use of refrigeration and air conditioning equipment provides temperature and humidity control to shorten the drying period, increase the tensile strength, eliminate blisters, insure a uniform product, permit rapid compounding, prevent burning, eliminate imperfect joints caused by condensation, reduce oxidation, and reduce the explosive hazard. In addition to all of these factors, refrigeration is used to cool rollers which roll out the sheets at high speed.

There is one other vital program for the winning of the War that I would like to touch upon and that is in the field of the production of high octane gasoline. With the new developments in this field, it is impossible to produce in quantity high octane gasoline such as is necessary to keep our Flying Fortresses and fighter planes in the air without refrigeration machinery. There is no need for me to comment on the importance of this particular program.

Another of the reasons I was anxious to get out to talk to you was that I could tell you something about our organization and share some of my experiences in Washington with you. I have been associated with the War Production Board and its predecessor organizations, the Supplies, Priorities and Allocations Board and the Office of Production Management, since September, 1941. The work has been more complicated, confusing, and difficult than any I have experienced in my career in private industry.

The most interesting part of this experience which now covers a year and a half has been the change which has taken place, both inside the War Production Board and in the attitude of the members of that segment of American Industry we all know as the Refrigeration and Air Conditioning Machinery and Equipment Industry.

During the months I have been in Washington in various buildings, as some of you know—Temporary Building "D," then "E," then over to 462 Indiana Ave., back across the mall to the Railroad Retirement Building, over to Temporary "S," and then back to "E" (incidentally, now you know the true origin of the expression, "Washington Merry-Go-Round") a great cross-section of your industry found its way to my desk.

In the early months I met men who resented curtailments and fought tooth and nail any change in the scheme of things which would cause them to deviate from "Business as Usual." Their resentment was bitter and at times bordered on being vicious.

Some individuals spent many valuable hours pointing out the absolute necessity of continuing the manufacture of various items of civilian goods. Their arguments ran along these lines: To stop civilian production would deprive the country of an untold amount of taxes and without taxes we could not finance the war. This and a thousand and one other arguments went on day after day.

Those men just could not bring themselves to the thought of changing their whole way of doing business. They only saw before them a wrecked business, lost employes, dissipated capital, and grass growing in the streets. They could not bring themselves to the realization that the successful conduct of the war is measured by a "War Economy" and as "cold is the absence of heat" a "War Economy" is the absence of "Civilian Economy."

In the OPM Days

Well, a minute ago I said one of the most interesting things in my experience in Washington was the changes. I have cast some light on one side of the picture, let's call it your side—the business man's side. Now let's look at another side, that inside the old OPM.

When I first went to work in Washington, I was an "industry man" so, therefore, I could do nothing directly and I became involved in a lot of red tape and governmental procedure. However, this is cleared up to a great extent at the present time.

The important thing is that industry and government are now pulling together and winning the War. The people of the refrigeration industry are whole-heartedly behind the prosecution of the War. Notice, please, I did not say "War Effort." I do not regard it as a "War Effort." We are not making an effort at anything. We are *doing* something. We are engaged in the fighting of a war of a magnitude such as the world has never seen. Think of the magnitude of a war where in a secondary action a retreat is carried on over 1,500 miles and a major battle front extends 1,800 as in Russia. We are fighting against tough, well prepared enemies who are absolutely ruthless in their methods.

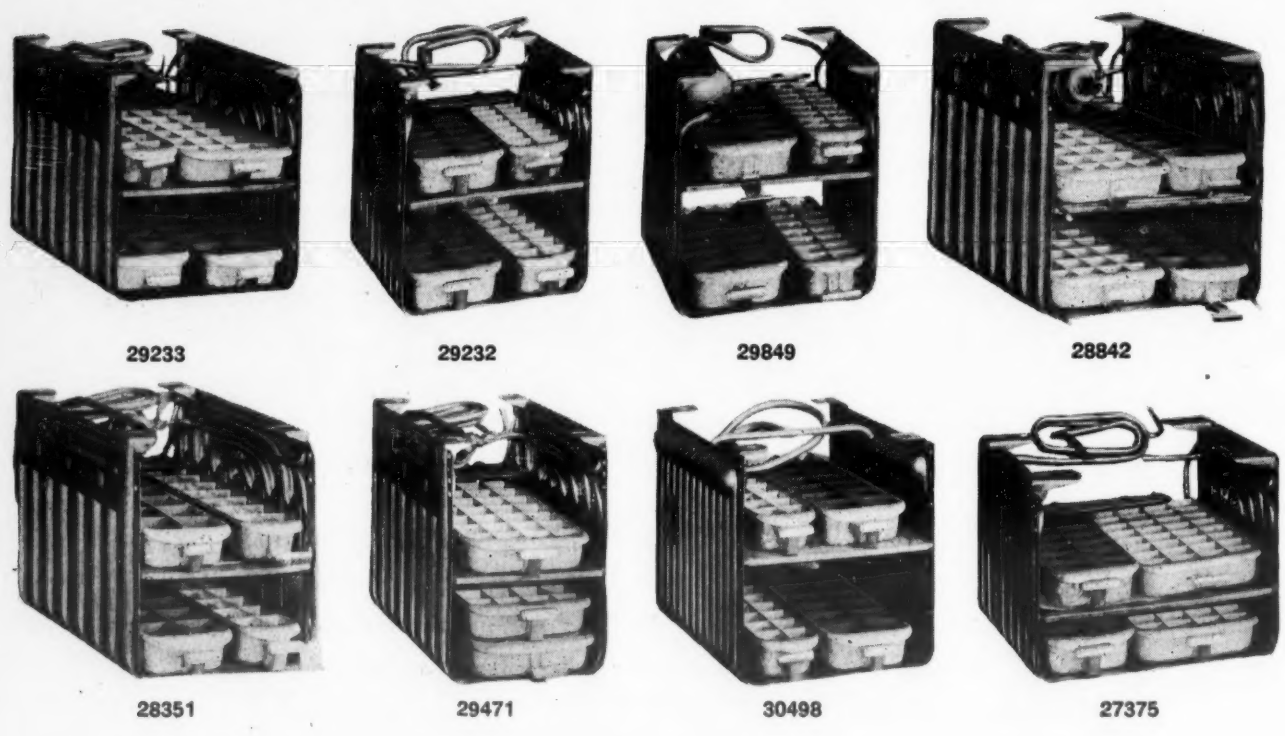
Do not kid yourselves either about the length of the war. Germany in 1914-1918 fought nearly the whole civilized world while using almost entirely her own resources and with only half the preparation with which she went into this war. Since the start of this war she has captured untold quantities of war material and pro-

(Continued on Page 5, Column 1)

*Abstract of an address given at the Refrigeration Industry Wartime Conference, Palmer House, Chicago, April 14.

BUY NOW

Be Ready For The Spring Rush



IMMEDIATE SHIPMENT WHILE STOCKS LAST

No priority needed. Trade discount 50%. Special prices to Jobbers.

SPECIFICATIONS AND LIST PRICES

Quan.	Part No.	SIZE D	SIZE H	SIZE W	MTG. DIMS. Front	MTG. DIMS. F to B	No. Trays	List Price
20	27375	12	9	12	7⅜	8⅝	4	$53.00
34	28351	12	10	9	7⅜	8⅝	4	42.50
2	28352	12	10	9½	7⅜	8⅝	4	52.00
9	28842	12	12	12	7⅜	8⅝	4	55.00
82	29232	12	10	9	6⅛	8⅝	4	50.00
26	29233	12	10	9½	7⅜	8⅝	4	53.00
542	29471	12	10	8	6⅛	8⅛	3	51.00
294	29849	12	10	9	6⅛	8⅝	4	43.00
156	30498	12	10	9½	7⅜	8⅝	4	36.25
11	30570	12	11	10	7⅜	8⅝	6	45.25

NOTE: *Nos. 30498 and 30570 are stainless steel, designed for high side float but adaptable for expansion valves. All other evaporators are copper construction for use with, and prices include, a No. 672 Detroit Lubricator expansion valve.*

WRITE WIRE OR PHONE TODAY

J. M. Oberc, Inc.
REFRIGERATION AND AIR CONDITIONING SUPPLIES

904 W. BALTIMORE AVE.
DETROIT, MICH.
PHONE: MADISON 1075

People Who Handle Industry's Problems at WPB Identified

(Continued from Page 4, Column 5)

ductive facilities in the Low Countries, France and the Balkans.

This is going to be a long, hard war and *you* have to fight this war just as much as the man at the front. Things are going to get a whole lot tougher before they get better, and do not forget every minute the length of the war is prolonged will be marked in the book of time with a pen dipped in blood. This is the price of war—a given number of men killed each minute—hour and day.

The organization in Washington has changed, industry as a whole now stands out in the light of day and industry men no longer are in the shadows. The industry man now is an honored guest at the table and does not have to panhandle hand-outs from the cook. The industry operating sections of the War Production Board are now organizations of business men dealing with business men.

You undoubtedly want to know how the Section of the War Production Board representing your industry is set up and, in general, how it functions. First of all, the Refrigeration and Air Conditioning Section is part of the Special Equipment Branch. This Special Equipment Branch is part of the General Industrial Equipment Division and consists of several operating sections which have to do with food machinery and other machinery.

The Chief of the Branch is Frederick W. Smith. Fred Smith has an extensive background in the refrigeration industry with the Frigidaire Corp., having been their New England manager for some 17 years. This is one thing that is very helpful to me as the operating head of the Refrigeration and Air Conditioning Section. When I go to Mr. Smith with any problem, he and I can sit down and talk about it in the language of the refrigeration industry and arrive at a quick decision.

8 Operating Units

Your Section is composed of eight operating units and the office of the chief. Before getting into a detailed discussion of the Section's functions and personnel, I would like to make one point clear and that is that every man in a supervisory capacity in the section or who has anything to do with passing on priority applications of any kind is an industry man of at least 10 years' experience. They can understand your problems if you make yourself clear.

There is no one in the Section who does not have a background of refrigeration experience. The units of the Section are: Accessory, Commercial Refrigerator, Emergency Service, Industrial Air Conditioning, Industrial and Commercial Refrigeration Machinery, Unitary Equipment, Material Allocations, and the Staff Unit, which is the operating organization of the chief of the Section.

We have two appeals boards, one each to handle appeals under L-126 and L-38. The appeals boards are made up of representatives of Labor, Civilian Supply and Conservation with the administrators of the respective orders as chairmen.

There is also attached to the Section a consultant.

The Accessory Unit is headed up by Leo J. Freitas, who came to the War Production Board after acting as a manufacturers' agent in Dallas, Tex. Before that he spent many years with the Fedders Mfg. Co. The Accessory Unit acts as a focal point for WPB contact with all manufacturers having as principal products refrigeration controls, valves, fittings, and accessories. Priority applications for valves, fittings, and controls are processed in this unit.

The Commercial Refrigerator Unit has as its chief, Howard Forman, who came to the War Production Board from operating his own company, the Forman Products Co., of Fleetwood, Pa., before which he was connected with Nash-Kelvinator Corp. and the Seeger Refrigeration Co. The Commercial Refrigerator Unit is the focal point for WPB contact with all manufacturers having as principal products commercial refrigerators, display cases, and related products. Priority applications covering the products of this segment of the industry are handled in this unit.

Tait Heads Service

R. H. Tait, Jr., is Chief of the Emergency Service Unit and Deputy Chief of the Section. Mr. Tait came to the War Production Board from his own company in St. Louis. He was president of R. H. Tait & Sons Corp., refrigeration contractors and engineers, and was associated with that company 22 years. Applications for authority to operate as an Emergency Service Agency, either PD-399 or PD-471, are processed in this unit. The Emergency Service Unit is responsible for all problems of service, maintenance, and repair through authorized service agencies operating under P-126. Mr. Tait is the Administrator of that order.

You can undoubtedly understand that the work of setting up the records and files covering some 12,000 Emergency Service Agencies is a job which requires, not only a background in the refrigeration industry, but someone who is highly competent in this type of work. This is handled in the Emergency Service Unit by Mrs. Florence Stanton, who spent 14 years in the refrigeration industry with the Kelvinator Corp. Mrs. Stanton in her previous connection, worked not only in the installation and service department but also in engineering and sales work, which background admirably fits her for the task of supervising the correspondence and files for the service agencies.

The Industrial Air Conditioning Unit is headed by M. C. Terry. Mr. Terry has a wide background of experience in air conditioning, having been chief engineer for the Air Conditioning Division of the Westinghouse Electric & Mfg. Co., and also associated with Standard Air Conditioning Corp. of New York City. Mr. Terry also operated his own business, the Certified Products Co. of Toledo, where he combined the duties of president, treasurer, production manager, and chief engineer.

The Industrial Air Conditioning Unit handles all WPB contact with manufacturers having as their principal products equipment used in air conditioning systems. All priority applications for ratings on air conditioning installations are handled here by Mr. Terry, and he exercises all of his many talents in passing judgment.

A. H. Keeler is Chief of the Industrial and Commercial Refrig-

(Continued on Page 6, Column 1)

Looking Ahead in Air Conditioning with Dr. Willis H. Carrier

DR. WILLIS H. CARRIER, Chairman of the Board, Carrier Corp., and "father of modern air conditioning," needs no introduction. Kinetic Chemicals, Inc., is pleased to present his thoughts, in this, the first of a series of messages addressed to architects on air conditioning for present and postwar building.

"ONE of the greatest opportunities for extending the benefits of air conditioning will be in office buildings, hotels and the better class apartment houses. Although many individual rooms will be conditioned with self-contained type units, if this market is to be fully developed, air conditioning must be made wholly adaptable to existing buildings, as well as to new buildings. Economy in cost and space will require a revolutionary design employing a minimum of ductwork and the concentration of all machinery in a central plant.

"The ideal air conditioning system for such buildings must be especially adaptable to existing architectural requirements. It must use much less floor space; not infringe on head-room space; be suitable to old as well as to new buildings; not restrict acceptable structural practices nor interfere with interior arrangements. Functionally, it must maintain high quality comfort air conditioning; provide each room occupant with individual control; give desired results regardless of wall exposure, sunlight, number of room occupants, normal lighting and outdoor weather variations, heating some rooms while cooling others, ... and operate quietly. Ideally it must combine the winter and summer services in one system. Since one of the greatest benefits of air conditioning is to be found in the absence of dust and dirt that comes through open windows, heating and cooling means, together with suitable control, must be provided for each individual room.

"The advance in the art of air conditioning now permits such requirements to be approached at costs that are reasonable in view of the advantages offered. When building owners and occupants realize that they may have true air conditioning in all seasons of the year at moderate cost, the potential market for air conditioning will be very large."

"FREON"* is unique among refrigerants because of the combination of safety features it brings to refrigeration and air conditioning. Carrene II, used in Carrier centrifugal refrigerating machines for air conditioning, is a "Freon" refrigerant. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington, Delaware.

KINETIC

FREON

reg. U. S. PAT. OFF.

safe refrigerants

*"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.

WITH AN EYE TO YOUR POSTWAR MARKET

As the makers of "Freon" refrigerants, we have a common and vital interest with all the industry in the postwar market for air conditioning and refrigeration.

Accordingly, we have invited industry leaders to give their views to architects and consulting engineers on what air conditioning will offer to the postwar world.

This message by Dr. Carrier is the first of the series, reproduced from an advertisement in color in "Architectural Record" for April. Others will follow, covering various aspects of air conditioning and refrigeration for the future.

We hope you will find this series of interest and real inspiration. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington, Delaware.

KINETIC

reg. U. S. PAT. OFF.

Orders Affecting Refrigeration Face Tortuous Path at WPB

(Continued from Page 5, Column 5)

eration Machinery Unit which acts as a focal point for WPB contact with all manufacturers whose principal products are refrigerating machinery. This unit also processes all priority applications for installations incorporating refrigeration machinery as such. Mr. Keeler comes to the War Production Board from the Mack Machine Co. of Pennsylvania, having formerly been an engineer with the Frick Co.

The Unitary Equipment Unit, of which Bert Meyer is Chief, handles all self-contained equipment, and here are processed priority applications on this type of equipment which covers water coolers, rivet coolers, liquid coolers, instrument testing cabinets, and others of this same category. Mr. Meyer comes to the WPB with a background of 12 years in the industry as a sales engineer and executive. His last position was that of divisional manager of the eastern territory for Nash-Kelvinator.

The Material Allocations Unit handles all of the CMP applications which are sent in by the manufacturers of the refrigeration and air conditioning industry. These applications, as you know, cover the allocation of critical material for the manufacture of machinery. This unit is headed up by Gordon Wootton, who formerly was with the Seeger Refrigerator Co. of St. Paul and who goes back to the early days of the industry.

The Staff Unit, the operating organization of the Section Chief, handles all of the details of administration on L-38, L-126, and M-28.

Frank Millham, administrator of L-126 and a member of the staff unit, comes to the War Production Board with a fine background of engineering, installation, and service from the General Electric Co. His many years in the business particularly fit him to handle the administration of such a highly technical order.

William Smylie, who handles the administrative detail on L-38, has had a long background of continuous service with York Ice Machinery Corp.

The administrative detail of M-28, the Freon order, is handled by Miss Mary Jane Meyers, under the guiding hand of Leo Freitas. Miss Meyers was formerly secretary to Hulen Stuart, who handled that detail for me prior to his being commissioned in the United States Navy.

Well, before we go much farther, let's take a look at the order set-up under which the refrigeration and air conditioning industry must operate.

Before we start to discuss orders I believe a word of explanation is due you people in regard to the seemingly endless delay which takes place between the time an order is discussed with an industry advisory committee, or perhaps even a rumor gets out that there will be a change in an existing order, or a new order is issued. You know, after all, we still operate under a democratic government and, before an order can be issued, it is necessary that all of the people who might possibly be affected by an order have a chance to make known their wishes with regard to the terms of the order and, if possible, we have to see that they are taken care of.

22 Others Affected

Let's go back to the statement I made a few moments ago about the 22 industries which are vitally affected by refrigeration and air conditioning machinery. That will give you some inkling as to the problems involved in clearing an order since all of these industries, through their representatives on the staffs of the various industry sections and branches of the War Production Board, must have their say in court on any order which affects their operation. Then there are industries which are affected, incidentally, so here we give you the sum total of all the people who have to be considered in the issuance of an order affecting refrigeration and air conditioning machinery and the procedure which must be followed.

First of all, the chief of the operating section composes a memorandum outlining the plan that is to be followed. This sets forth the purpose and scope of the order with regard to the industries and companies affected and the materials produced or equipment covered. All of the WPB orders and regulations which will be affected by the issuance of the order have to be investigated and a great number of other things must be considered in passing judgment as to whether or not the order should be issued.

When this memorandum is passed by the office of orders and procedures this office in turn sends back permission to prepare a legal draft. This draft is prepared by the branch counsel, the administrator of the order to be amended, or the section chief in the issuance of a new order. When the draft is complete it is sent to the office for order clearance and then circulated among the various boards, bureaus, and other agencies of the government for comment. All this is not needless red tape but a necessary procedure to insure that the orders have been considered by all concerned.

The industry divisions have to be taken care of and the following divisions have to be given copies of the order for their concurrence or dissent:

Salvage Division
Minerals Resources Coordinating Division
Resources Protection Board
Steel
Copper
Aluminum & Magnesium Division
Tin-Lead
Zinc Division
Mica & Graphite
Miscellaneous Minerals
Mining Equipment Division
Chemicals
Cork, Asbestos
Pulp & Paper
Printing & Publishing
Containers
Beverages & Tobacco
Textiles, Clothing & Leather
Consumer Durable Goods
Service Equipment Division
Wholesale & Retail Trade
Government Division
Plumbing & Heating
Building Materials
Lumber & Lumber Products
Power Division
Transportation Equipment
Communications Equipment
Farm Machinery & Equipment
Construction Machinery
Safety & Technical Equipment
Automotive Division
Tools
Office of Field Operations

Incidentally, 60 copies of the order go to the Army-Navy Munitions Board which are in turn circulated to all of their agencies. When all of the returns are in (memoranda of dissent or approval) from the circulation of the order it then becomes necessary to reconcile all differences. Then, if the differences cannot be reconciled in conference with any one division, a brief must be written in support of the contention that the order should be issued over the objections of that division.

The order then goes to the clearance committee. However, before going to the clearance committee, it is checked by the staff of John Lord O'Brian, General Counsel. On the clearance committee sit representatives of civilian supply, labor, materials, conservation, statistics, A.N.M.B., and the office of the procedural consultant. Here everybody takes one last crack at it and then the clearance committee votes. If it votes favorably, it is sent to the office of the Program Vice Chairman for signature and then is issued in 72 hours.

We have M-28, the order on Freon refrigerants; L-126, The Conservation and Simplification Order; P-126, The Emergency Service Order; and L-38, the General Limitation Order.

Order M-28

Order M-28, as you all know, is an allocation order and under it you receive your monthly allocation of Freon. Right at the present time there is no shortage of Freon as such. There is a continual shortage of cylinders and I cannot tell you how much we all appreciate your fine cooperation in getting cylinders back to Kinetic at Carney's Point.

However, there are still too many people who want to be their own doctor and have cylinders stored away in case of a shortage. These people are violating the letter and the spirit of the order. They are working a hardship on the unselfish people who allow the War Production Board to be the doctor. Bear in mind that a system of warehouse stocks has been set up and is operating throughout the country where in case of an emergency Freon can be shipped to any point in the country in eight hours at the most. Get the cylinders back—let us be the doctor—home medicine is costly. Then, too, every cylinder that is hoarded, for that is just what it amounts to, either takes Freon from a more essential use or steel from a weapon.

Order L-126

L-126, The Conservation and Simplification Order, sets up standards by which the manufacturers are guided in their production, and there is one schedule which covers service and refrigerant connections which is of interest to not only manufacturers but to jobbers, contractors, and service men. The order is written with a covering enabling order and there are six schedules.

Order P-126

Order P-126 covering material for emergency servicing for industrial and commercial refrigeration and air conditioning systems is one which affects not only all of you personally insofar as your business is concerned, but the successful operation of this order affects every man, woman, and child in this country who is more than a few hours removed from a source of fresh food.

The food distribution system of this country is the most complex in the world and is dependent upon refrigeration for its very existence and operation. P-126 is set up to provide material to maintain the refrigeration machinery of this food distribution system. Let's not make any mistake about this order. It is not an order to enable you to do business as usual. It is an emergency service order to enable you to make emergency repairs.

The new order which was issued Feb. 6 is much more stringent than the original, particularly with regard to the replacement of equipment. This is due to the fact that the original order was abused.

People operating under the order just did not play fair. Complete installations were replaced under the clause that allowed replacement of items of equipment which were worn out, damaged, or destroyed. A number of these individuals have had their certificates withdrawn and a larger number are still under investigation and undoubtedly more certificates will be withdrawn. The order now, however, makes perfectly clear that you may not replace a high side or low side. You may use the P-126 ratings to effect the repair of a piece of equipment until a proper rating may be obtained for the replacement of the high side or low side.

There has been another change made in the P-126 order which is more one of wording than operating principle. This change makes it possible for anyone who is regularly engaged in the servicing of refrigeration machinery to apply for a certificate of authority to operate as a service agency. The wording of the order before it was revised was such that a certificate could be applied for by any one of three types of operators: authorized representatives of a machinery manufacturer, authorized representatives of an owner of equipment, and also authorized representatives of a lessee of equipment.

Now you can see that in principle there is absolutely no difference. Anyone who is regularly engaged in the business certainly is representative of an owner or a lessee of equipment. The practical aspect of this change is that some red tape has been eliminated which is something that we are always striving to do regardless of what you fellows in the field think about our operations.

However, no one who receives a certificate and who did not have an inventory in 1941 may use the ratings under P-126 to acquire such an inventory.

There is one major change in the order which I have not touched upon and that is the clause prohibiting the use of the ratings in

(Concluded on Page 7, Column 1)

THE STANDARD OF *Enduring Craftsmanship*

Donald McKay, designer and builder of the famous clipper ship "Flying Cloud," East Boston, Mass., 1851.

The American Clipper ships designed and built by Donald McKay, "the most famous clipper shipbuilder of his time," were the fastest, the sturdiest and perhaps the most beautiful things that ever sailed the seas. Boiling along at 18 miles an hour, a speed of which no steamship of that day was capable, they were the ideal of applied art and a sheer delight to the eye.

Proud indeed may be the craftsman who knows instinctively that his product possesses those elements of craftsmanship which belong always to the thing absolutely fitted for the purpose it was designed to fill.

EXTRA DRY ESOTOO, V-METH-L AND METHYLENE CHLORIDE

"VIRGINIA" REFRIGERANTS
AGENTS FOR KINETIC'S "FREON-12"
VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

'Meaning' of Order L-38 as the Administrator Views It

(Continued from Page 6, Column 5)

the servicing of any comfort cooling system as defined in the order.

A great number of you people are very much interested in repair parts for domestic mechanical refrigerators. This is something about which I know very little. However, I am able to give you an outline as to how the plan is set up.

Section No. 3 of the Consumer Durable Goods Division of the War Production Board handles domestic mechanical refrigerators. This section is headed up by F. M. Mitchell, who has had an extensive background in the refrigeration industry with the Household Division of Frigidaire, out of Dayton. This section gives assistance to the manufacturers of domestic mechanical refrigerators so they in turn may secure materials to produce repair parts.

To Get Household Parts

The wholesale-retail trade division of the War Production Board and the Administrators of Order L-63 have provided that supply houses may apply on Form PD-1X to maintain their inventory of repair parts which are manufactured from the material given to the producers of domestic mechanical refrigerators.

This plan of operation under PD-1X which is available not only to refrigeration supply jobbers but also to refrigeration distributors makes it unnecessary for service men to pass a rating back to anyone operating under PD-1X to secure parts for domestic mechanical refrigerators. I will not attempt to give you the operating details of this plan. You may secure details by writing to Mr. Mitchell.

We have now covered three of the orders affecting the operations of manufacturers, dealers, and distributors, as well as service men. Now we come to the general limitation order affecting the industry. This is known as L-38 and the latest order issued March 27 and effective April 6 is titled L-38 as amended. This order sets up various provisions covering deliveries and production.

The restrictions on deliveries and production covered by the order include all refrigerating and air conditioning machinery and equipment except domestic refrigerators and complete farm milk coolers.

It also covers "industrial type extended surface heating equipment," such as a reheat or tempering coil or a combination heating and cooling coil where the coil is used in connection with a refrigerating or air conditioning system, and "industrial type humidifying equipment."

The amended order combines the original L-38 with four amendments previously issued, and makes some changes in the procedure for obtaining ratings and authorizations. Attached to the order are lists naming equipment that may or may not be produced, or may be delivered to specific users: a list naming the purposes for which equipment may be manufactured, and a list naming categories of users of "comfort cooling systems" to whom repair parts, new or used, cannot be delivered except under certain conditions.

The order affects the entire refrigeration and air conditioning industry, including the dealers and distributors of the industry's products. It restricts the delivery of any new or used parts (a) to Emergency Repair Service as defined in the order and to fill purchase orders bearing a rating of AA-4 or higher, or (b) to fill an authorized purchase order, or (c) to orders for direct use by the armed services. All replaced parts made of metal must be delivered by the owner to the dealer or producer, if required, or disposed of through a scrap dealer within 30 days.

The delivery of any new parts regardless of how they were acquired for inventory (other than for emergency repair service) can be made only on an "Authorized Order," or to the Armed Forces.

Application on the new forms PD-830 or PD-831 for authorization to purchase equipment will be considered only if the equipment it is to be used for an essential use as described on List C of the order. The filing of such an application will relieve the applicant from the necessity of filing an application form for any component parts required by Order L-100, L-163, or L-172.

For 'Authorized Orders'

For an "Authorized Order" application must be made to the War Production Board on Form PD-830 for industrial refrigeration or air conditioning equipment and on Form PD-831 for small commercial refrigeration equipment and machinery such as commercial refrigerators and related equipment.

Delivery of new equipment from producer to producer or producer to dealer is not affected.

Reach-in and walk-in refrigerators may only be produced for direct use by the Army, Navy, Maritime Commission, or War Shipping Administration. Such refrigerators for civilian use may be produced only from parts or materials owned by the producer on April 6, 1943. A producer of such refrigerators may sell parts or materials to another producer for assembly into complete refrigerators.

A dealer or producer may loan a new or used system or part to an owner for emergency repair service for a period of 30 days unrestricted by this order.

The appeals clause in the order provides that any appeal under this order will also include any applicable appeal from Conservation Orders M-9-c or M-126.

So here you have an outline of the four orders governing the various phases of the refrigerating industry. Read them carefully—there is a lot of meat in them—they are tight and govern your every act in business.

Now, how is all this going to affect you people of the refrigeration industry? Well, first of all let us take a look at the record.

When L-38 was issued last spring a number of items of equipment were washed out by stopping production and with progressive amendments other items of equipment were added to this list, the recent L-38 just about cleaned up the unessential items of equipment. Production was stopped on further items and they were released for sale from all dealers' and distributors' stocks as well as manufacturers', with the exception of a couple of items that are being held for purchase by the armed forces.

Now what effect has this had on the refrigeration industry? The refrigeration industry over-all has been built on a comparatively small basic machine tool capacity. This machine tool capacity is concentrated in the factories producing compressors and control valves as well as electrical controls.

Supported by this machine tool capacity is a layer of other manufacturing plants, all of which have various items of equipment and whose principal products have been specialties of various kinds into which was incorporated the products of the machinery builders.

A typical example of this, let us say, is the assembled beer cooling installation. Here on the one hand you have a plant turning out a walk-in cooler for the storage of beer and tied to this is a draft station, together with an installation of back bars and refrigerators of various sizes. In order to cause this to function, it is necessary to gather together from the plants of some two or three other manufacturers condensing units, cooling units, cooling coils, and control valves. The value of this equipment in comparison to the over-all installation is comparatively small.

Another typical example of this type of installation is the assembled air conditioning installation for comfort cooling. There is no need for me to go into any detailed explanation about the equipment which would go to make up this type of installation. You

The issuance of L-38 released a lot of machine tool capacity which has been absorbed in various ways in the production of war material and ordnance. As you know some of the companies who formerly turned out refrigeration and air conditioning equipment in great volume are now producing shells or gun mounts.

What is in view in WPB? Frankly, this is something that is very hard for me to answer insofar as the future is concerned. However, there is a movement to standardize things in many lines. We have done this in the refrigeration industry through the issuance of L-126.

It is interesting to note that in 1942 only 85 Standardization and Simplification Orders were issued by the War Production Board, of which L-126 was one of the first. In 1943 more than twice as many such orders are contemplated and a great many additional ones are under way. Your best bet all the way down the line is to keep in touch with your industry advisory committee and your trade association.

With regard to industry advisory committees, that is the last phase of the over-all operation of the refrigeration and air conditioning section that I want to tell you about. We have set up eight committees which are as follows:

General refrigeration and air conditioning industry advisory committee.

Commercial refrigeration.

Water cooler.

Refrigeration valve and fittings.

Fin coil and cooler industry.

Industrial refrigeration.

Refrigeration wrought copper solder type fittings.

The first one, you will note, is entitled the General Refrigeration and Air Conditioning Industry Advisory Committee.

This committee is the board of directors of the industry. A meeting is scheduled for this committee each month in Washington and at these meetings various problems of the operation of the industry as a whole are discussed, recommendations are made by the committee and we follow through on these recommendations in the industry section. If any of you men have problems, the best thing for you to do is to present them through the industry advisory committee.

You will note that in the make-up of the general committee, each segment of the industry is represented and these men are hard workers and only too glad to be of help. Feel free to call on them at any time.

AIR CONDITIONING—GEARED TO A THOUSAND WARTIME NEEDS

A weapon for Westinghouse Contractors
This advertisement is one of a series appearing in leading national publications including Time, Business Week, United States News and industrial and trade publications with total circulation of nearly 1½ millions. This program is a potent weapon to help Contractors sell Westinghouse Air Conditioning and Industrial Refrigeration for vital war needs.

Fletcher Pratt, noted military authority, helped us prepare this striking picture showing units of our Air Force attacking a U-boat construction center.

SINKING *U-boats* BEFORE THEY'RE BORN

Modern air power depends on precision instruments—bombsights, machine guns, cannon, navigation instruments, electronic communications devices. These, and a vast number of other products essential to the war effort, benefit from Westinghouse Air Conditioning and Industrial Refrigeration.

Producers who formerly "got along without" have proved that controlled temperature, humidity and air cleanliness mean uniform quality, precision, fewer rejections, faster production of vital war materials.

When peace comes, a thousand new-day benefits will result from Westinghouse Air Conditioning and Industrial Refrigeration. Better products at lower cost, greater year 'round comfort—better living for all.

In helping solve "conditioning" problems, Westinghouse offers years of experience—also a hermetically-sealed compressor which assures economy, dependability, long life. Inquiries are invited from producers of war materials and postwar planners. Westinghouse Electric & Mfg. Co., 657 Page Blvd., Springfield, Mass.

Westinghouse *Air Conditioning*

Tune in John Charles Thomas, Westinghouse Program, NBC, Sunday at 2:30 P. M., E.W.T.

WPB Takes Steps To Drive Idle Motors Into Productive Channels

WASHINGTON—The War Production Board is doing its utmost to locate every idle electric motor and generator and get it back into active service, John Gammell, Chief of WPB's Electrical Equipment Branch, said recently in a statement calling upon industry to cooperate with the Division by listing idle motors and making full use of its services in obtaining secondhand equipment.

"Failure to put idle equipment to work steps up the demand for new equipment and wastes manpower and plant facilities that are urgently needed for the war effort," Mr. Gammell said. "Steel, copper, aluminum and other critical materials are also wasted when new motors or generators are used instead of second hand ones that could adequately do the job."

Restrictions on purchase orders for new motors and generators imposed by General Conservation Order L-221 as amended Jan. 15, Mr. Cammell pointed out, are designed to insure full use of second hand equipment. A purchase order for new motors or generators must have a preference rating of AA-5 or higher and the prospective buyer must certify that he has made every reasonable effort.

1. To adapt idle motors or generators in his possession to the purpose for which new ones are sought;

2. To obtain used equipment from other sources;

3. To repaid or recondition his existing equipment.

"To assist industry in locating idle motors and generators," he stated, "the General Industrial Equipment Division has set up a Used Motor Unit in its Electrical Equipment Branch. The Unit has a file of about 30,000 used motors and generators including those listed by motor dealers with the OPA and those available in industrial plants. This file, which covers the entire country, is compiled from data received from the WPB field offices and directly from dealers and industrial plants and is kept currently up to date."

The Unit's chief function is to serve as a clearing house for owners and prospective buyers of idle motors and generators. Whenever possible, manuafcturers looking for used equipment are referred to nearby sources of supply. However, the Unit's listing of equipment available in all parts of the country makes it possible to fill special needs even when idle motors and generators are not available locally.

The Used Motor Unit also reviews a large percentage of applications for priority ratings on new equipment (PD-1A) and in many cases is able to give assistance in locating idle equipment. The Unit is under the direction of C. A. Sievert, former president of the National Industrial Service Assn., who has had a long experience in the used motor field.

Many Uses Are Listed For Air Cooling In Army Hospital

NEW ORLEANS—Air conditioning equipment has been installed in the hospital of the Army Air Base at New Orleans, where it is serving a five-fold purpose.

Carrier equipment has been installed in two operating rooms, an X-ray room, a dark room and in the Flight Surgeon's eye examining room.

Purpose of the installations, as described by company officials, include: Improved conditions for both patients and medical personnel in operating rooms; purification of air; preservation of X-ray plates; preservation of instruments and material in the eye, ear, nose and throat clinic, and ventilation in the dark room where all windows, of necessity, must be closed.

'Ideal Cooler Co.' Now Name of St. Louis Firm

ST. LOUIS—The company name of Ideal Beer Cooler Co. has been changed to Ideal Cooler Co., according to Louis Weiss, president.

Change in name was brought about by the trend of war work in the Ideal plant. The company is now manufacturing low temperature cabinets for a variety of purposes.

Weiss states that the management and financial status of the company remain as they were.

Service Manager Describes Steps That Are Taken To Obtain Deferments

Gives Outline of Information For '42' Forms

SAN FRANCISCO—Following the issuance of a Service Board bulletin to the effect that experienced refrigerator repairmen are essential, the service manager for one of the major refrigeration companies in this vicinity recently outlined the procedure he believes most satisfactory for employers to follow in seeking draft deferment of their service men.

In outlining the procedure, he says that action should be based on Selective Service Bulletin No. 42, which says that men occupied in the business of repairing refrigeration equipment (either household or commercial) may be deferred in consideration of certain qualifications.

A serviceman, accordingly, is eligible for deferment provided he is a trained man, has at least six months' experience, and cannot be replaced at the present time.

Two forms are used in requesting deferment. Form 42A is the actual deferment request. Form 42B entitles the employer to a 15-day notice prior to the registrant's classification.

Employers should fill out form 42B for each man under 45 for whom a deferment is desired. If a man is already classified 1-A, then form 42A should be made out immediately and sent to his selective service board.

After filing forms 42B with the draft boards, forms 42A should be prepared for immediate presentation to the boards as soon as the 15-day notices on registrants are received.

If form 42A has been filed for a man and no action has been taken for a period of six months or more, it is advisable to file another 42A informing the board that the man's duties have not changed and that he is still employed and needed.

To form 42A, it is well for the employer to attach a letter detailing essential facts. In each letter submitted, statements on the following facts should be made:

a. The board's authority to defer service and repair men.

b. The necessity of the registrant's work in the preservation of health and food.

c. The number of service calls made by the registrant, both in homes and in factories.

d. The shortage of materials which increases the demand for service.

e. The fact that repair calls will continue to increase.

f. The impossibility of replacing the serviceman in question.

g. The time it would take to train a new man.

Forms 42A and 42B may be obtained from any local draft board.

Philadelphia Men Get Service Course

PHILADELPHIA — The Electrical Association of Philadelphia, in conjunction with the School District of Philadelphia, is sponsoring a complete course of training for refrigeration service men. Full information pertaining to the course, started this month, was released to managers of industrial, commercial and apartment buildings, together with electric refrigerator distributors and dealers interested in refrigeration service.

The course consists of 26 sessions, the schedule calling for two sessions each week for each class, with instructions commencing at 7 p.m. and adjourning at 10 p.m. In addition to a lecture, each session includes practical work on actual equipment. Individual instruction and help are being stressed throughout the course.

The Association provided each man enrolling, without charge, an up-to-the-minute and readily understood text-book covering each of the subjects included in the course. With the exception of a nominal enrollment fee of $1.00, the refrigeration training course is free.

The reception given this project was phenomenal with 250 men enrolling for the sessions being held at the Murrell Dobbins School, which required the formation of four classes and the services of six teachers. Sessions are held on Monday, Tuesday, Wednesday and Thursday evenings.

The refrigeration equipment utilized for the practical work in connection with the course was supplied to the school authorities through the generous cooperation of local refrigerator distributors.

Moreover, at the present time there is a waiting list of approximately 70 men. It is anticipated that these will shortly be absorbed into the school, in that a contemplated course in commercial refrigeration will take over a number of the more advanced men.

The schedule of subjects included in the course are: 1. Principles of Refrigeration. 2. The Theory of Refrigeration. 3. Refrigerants and Their Characteristics. 4. Compressors. 5. Condensers and Liquid Receivers. 6. Float Type Liquid Control Valves. 7. Expansion Valves. 8 Temperature Controls. 9. Motors. 10. Installation Procedure. 11. Sealed Unit Systems.

De Laval Is Granted Renewal of Navy 'E'

TRENTON, N. J.—De Laval Steam Turbine Co. has been granted, by the Navy Board for Production Awards, a renewal of its Navy "E" Award for excellence in industrial production.

The De Laval company first received the Navy "E" in May, 1942, and the new award is for a six-month period beginning Nov. 15, 1942.

Mueller Brass Co. Nets $453,971 In Quarter

PORT HURON, Mich. — Mueller Brass Co. reports a net profit of $453,971 equal to $1.71 a share on common stock for quarter ending Feb. 28, compared to $481,031 equal to $1.81 a share for the 1941 period.

Reminding You

of the CURTIS POLICY ON THE EXCHANGE OF REBUILT REFRIGERATION COMPRESSORS

Many refrigeration suppliers and dealers are naturally experiencing difficulty in furnishing satisfactory repairs for refrigeration compressors now in service. This is due to limitation orders on new equipment and to a serious shortage of manpower.

To aid you in serving your Curtis customers, to keep essential Curtis refrigeration on the job even though we cannot furnish new equipment for the duration, Curtis reminds you FACTORY REBUILT REFRIGERATION COMPRESSORS are available on an EXCHANGE basis. These compressors are sold in exchange for Curtis compressors needing repairs and are fully guaranteed.

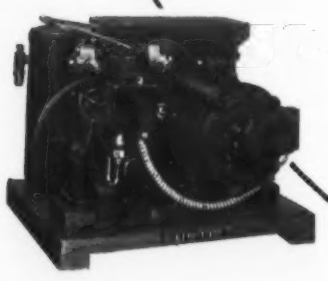
By utilizing this Curtis exchange plan, you can furnish your customers with factory-rebuilt and guaranteed Curtis compressors.

This is but another example of how, despite shortages and limitations, Curtis is making every effort to be of greater service to dealers and users of Curtis equipment. Write for details of how *you* can profit by, and serve your customers better with this Curtis plan.

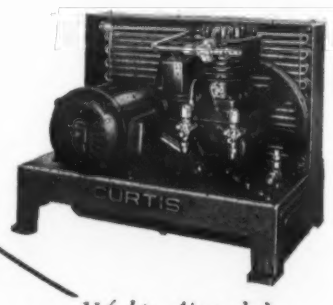
CURTIS REFRIGERATION AIR CONDITIONING AND COMMERCIAL

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1912 Kienlen Avenue • St. Louis, Missouri

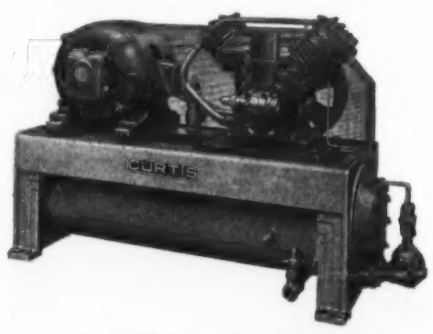
★ ★ ★ Conserve Metals—Buy War Bonds ★ ★ ★



½ hp. Air-cooled Condensing Unit



1½ hp. Air-cooled Condensing Unit



15-ton Water-cooled (Shell and Tube Type) Condensing Unit

For: TRUCKS, LOCKERS, COOLERS, COUNTERS AND CABINET CONVERSIONS, use:

KOLD-HOLD PLATES

KOLD-HOLD MFG. CO. LANSING, MICH., U.S.A.

LESS

LESS SERVICE CALL-BACKS
•
LESS LABOR AND EXPENSE
•
LESS GASOLINE AND TIRE WEAR

MORE

MORE SERVICE JOBS FINISHED WITH ONE CALL
•
More Continuous Service-Free Refrigeration

...when THAWZONE is used

HIGHSIDE CHEMICALS CO.
195 VERONA AVE., NEWARK, N. J.

THAWZONE
Fully Patented by U. S. Patent
The PIONEER FLUID DEHYDRANT

Chemical Concern Said To Plan on Appliance Division

NEW YORK CITY—The president of an unnamed electrical appliance manufacturing company is being sought by one of the country's largest chemical companies to head an appliance department, now in the blueprint stage for future incorporation into the chemical company, in anticipation of post-war business, it was reported in the "New York Times" recently.

At present the appliance president is in government service but, it is reliably stated that the chemical company has offered the official a large salary for his services to develop the new appliance department after the war.

This move on the part of the chemical company to acquire an expert, it is learned, is one of several schemes being worked out by manufacturers looking ahead into expanding post-war trade.

While a number of industries plan the establishment of new departments to accelerate post-war business, others are arranging contracts with their present sub-contractors which specify that the manufacturer will have first call upon the production of their sub-contractors in the post-war period.

Other and more elaborate schemes are afoot and, though confined to only a few companies at this time, the post-war planning trend is becoming more noticeable, it is understood.

Material Shortages Limiting Factor on Furniture Output

NEW YORK CITY—Lumber shortages are fast becoming the limiting factor in the production of furniture since the government recently lowered the specifications for its own requirements, according to F. E. Seidman of Seidman & Seidman, certified public accountants.

Factory inventories of plywood and veneer are also being reduced rapidly, he said.

Except for this, Mr. Seidman stated, there is a general feeling now that the furniture supply will be eased. Citing recent trends in government policy, he added that it was improbable now that any order would be issued to curtail furniture output. There may even be some easing of present restrictions, he declared.

While original plans to concentrate production in so-called nucleus plants throughout the country appear to have been abandoned, it may yet become necessary to shut down furniture factories entirely in a few areas, such as the West Coast, where the manpower shortage is critical, Mr. Seidman said. This move may be necessary to force into war industry those employes in the higher age groups who have been reluctant to make the change despite the higher wages, he explained.

In Grand Rapids, however, as in some other furniture areas, there is still a pool of unemployed persons, he said.

The L-260 order which restricts patterns and use of hardware will not be too great a hardship if manufacturers will use their ingenuity, Mr. Seidman continued. In fact, he said, the limitation of patterns should be considered a reform rather than a restriction.

"The industry has, for many years, followed uneconomic policies in connection with the size of its lines," he said. "Almost before a pattern was dry behind the ears a new pattern was born. As a result, manufacturers produced thousands of patterns where hundreds would have been plenty.

"Manufacturers little realize the real cost of bringing out a pattern. They think of it only in terms of labor and material used, and do not consider the high indirect costs such as the absorption of a large amount of management time, interference with regular production and the rapidity with which new patterns render older ones obsolete thereby increasing the sales costs."

Cessna Aircraft Now Offering a 'Layaway' Plan

WICHITA, Kan.—A "layaway" plan for post-war delivery of airplanes being promoted by Cessna Aircraft Co. here is receiving considerable favorable response, according to Prentiss Cleaves, advertising manager for the company which has featured some "previews" of post-war air travel possibilities for civilians, in its advertising.

Hundreds of requests for the Cessna priority plan have come in after only a month's advertising, Cleaves states. He says the Cessna "layaway" idea is simple but workable.

By advertising through a small booklet, the future customer is asked simply to return a card showing the denominations and serial numbers of the U. S. war bonds he wishes to "lay away" for the purchase of a Cessna Family Car of the Air. Upon receipt of this information, the booklet goes on to say, Cessna will advise the customer of his tentative priority number. After the customer has listed a total of $500 in bonds, Cessna will confirm the priority number. A $25 bond is enough to start with.

"You are under no obligation to buy a Cessna Family Car of the Air if you wish to divert your bonds to other purposes," the Cessna book reveals. However, "By using this plan, you will be helping our country to win the war and helping yourself towards enjoying the safety, speed, and comfort of a Cessna Family Car of the Air," the book concludes.

Alabama Group Moves To Put Service Work on a Less 'Exclusive' Basis

Seek To Get Shops To Do Work on All Makes

BIRMINGHAM, Ala.—How to replenish the supply of refrigeration mechanics and to help existing service shops to broaden out and handle more business is now receiving the attention of utilities and distributors in Alabama.

The situation is now so critical that some fair sized communities find themselves without a single repairman available and people with refrigerators out of fix either have to carry them to a distant city, buy an ice box or get along without refrigeration.

A series of meetings was scheduled by the Electrical Association of Alabama of which Ed H. Henley, Norge distributor in Birmingham, is president, to be held April 19-24 at a half dozen points in the state. The Alabama Power Co. is lending assistance in these meetings as are Crosley, Westinghouse, General Electric, Kelvinator and Norge representatives in Alabama.

One of the objectives of these meetings is to induce existing shops to offer a service on all the various makes of refrigerators. At present some shops will service only one or two makes at the most. The desire of the jobbers is to furnish them the parts, data and other service needed to repair all of the leading makes of boxes. Of some 100 shops in the state, 80 have indicated they would send representatives to these meetings.

In Birmingham under the sponsorship of the Birmingham Electric Co. and dealers a school for mechanics is being held in which several girls are enlisted. Besides book instructions, the students are given actual demonstrations in the shop of Steel City Supply Co., Crosley distributors, and in other places. Milton Tyler, former of the Birmingham Electric Co. is the instructor. Also in cooperation with the Birmingham Public School a vocational course in refrigeration is being given with the students after school in various shops in the city.

The drain on refrigerator mechanics by the war has been very heavy. Those not going into the armed service have gone into defense plants. This has left only a small percentage, mostly older men, who are unable to take care of the repair business available.

Icebox Maker Said To Use a Glass Liner

LOUISVILLE, Ky.—The Progress Refrigerator Co. (Louisville), is reported to be using glass for the inner walls of the iceboxes it makes in place of porcelain metal. These walls are sealed in by means of a flexible, waterproof cement. A glass drain pipe is also used.

'Class A' Stoker Is Defined by WPB

WASHINGTON, D. C.—Questions have arisen relative to the definition of a Class A coal stoker, quoted in Limitation Order L-75 as follows: "Class A coal stoker means any coal stoker which has a grate area of 36 square feet or less, and a coal feeding capacity in excess of 60 pounds per hour."

To more clearly define the term, the War Production Board has issued Interpretation No. 1 to the order, stating that "grate area" means only the live grate and excludes side dump plates. Also, "coal feeding capacity" means the coal feeding capacity performance of a stoker with a commonly used stoker coal.

Under P-75, permission to manufacture and ship Class A stokers is granted only on Form PD-668. Most of the production currently is going into heating plants being converted from oil to coal. This type stoker is of a size required to heat a 15 or 20-family apartment building.

The manufacture of Class B stokers, which are of single residential size, is prohibited.

Williams Oil-O-Matic Reports $566,515 Profit

BLOOMINGTON, Ill. — Williams Oil-O-Matic Heating Corp. reports a net profit of $566,115, or $1.31 a share, for the year ended Oct. 31, 1942, compared to a deficit of $58,132 reported for the year previous.

This Advertisement, in 4 colors, appears in *Collier's* April 3, *Life* April 5, *Ladies' Home Journal* May, *House Beautiful* March, *American Home* April, *Better Homes & Gardens* June, *Bride's Magazine*

We're On The BOND WAGON NOW!

WE'RE rolling down that good old Victory road—full speed ahead! We figure the sooner we put every last cent we can in War Bonds, the quicker this war will be over—and we'll be able to have that new Hotpoint Electric Kitchen we want! That's why Joe and I are stretching the budget to invest even *more* than ten per cent of his pay in War Bonds. The more money we have in Bonds, the more of that thrifty, time-saving equipment we can buy for our Hotpoint Electric Kitchen when Hotpoint makes home appliances again instead of war materials!

Some Day We'll Have The ELECTRIC KITCHEN That Bonds Bought!

FOR HOMES COSTING $6,000.
The Meadow Lark Kitchen illustrated is designed for homes costing as little as $6,000 and is completely electric, with Hotpoint Range, Refrigerator, Dishwasher, Sink and Hotpoint Steel Cabinets.

FOR HOMES COSTING AS LITTLE AS
$4,000
Hotpoint Electric Kitchens including Range, Refrigerator, Sink and Steel Cabinets have been installed in numerous homes costing only $4,000.

Tomorrow Is Worth Saving For

THERE'S a whale of a lot of incentive for you to make every sacrifice you can today! For after the war—with all the new appliances that are being perfected—the homes of America will be *finer* and cost *less* than you can imagine! Cooking will be done by Hotpoint Electric Ranges that require no watching. Electric refrigeration will be improved beyond belief... All these miracle-working conveniences can be yours—when the war is won. So speed the day of Victory—save wherever possible in order to buy more and more War Bonds.

BUY WAR BONDS TODAY—An Electric Kitchen Tomorrow!

• Kitchen hours will be cut down considerably with an automatic Hotpoint Electric Range to do the pot-watching! Vitamins and minerals will not be cooked away!

• Built to provide plenty of storage space—and keep foods at flavor peak far longer—the Hotpoint Electric Refrigerator will save time and money!

• A Dish your house your

The Cost of a Hotpoint Electric Kitchen Averages About 10% of Ho

ELECTRIC Hotpoint

Now a Full Scale Offensive... Hotpoint's National War Bond Advertising Campaign

★ Stronger than ever this year! In the first half of 1943, 27 full color, full page advertisements are selling your community this idea: "Buy War Bonds Today—An Electric Kitchen Tomorrow!" They appear in the following 12 magazines: *Collier's, Life, Ladies' Home Journal, Country Gentleman, Farm Journal, Electricity on the Farm, American Home, Better Homes & Gardens, House Beautiful, Bride's, House Beautiful Maintenance & Building Manual, House Beautiful Guide for the Bride.*

Hop on the Hotpoint Bond Wagon! Ask your Hotpoint distributor or factory representative for the 1943 plan book, which tells you how you can support this great forward looking program in your own advertising. Edison General Electric Appliance Company, Inc., 5632 West Taylor Street, Chicago, Ill.

ARMY E NAVY

For outstanding achievement in War Production

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

F. M. COCKRELL, *Founder*

Published Every Monday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK,
Editor and Publisher

PHIL B. REDEKER, *Managing Editor*
Editorial Assistants: CAROLINE TUNSTALL, ELISE WHITE and HELEN DAVIS.

JAMES B. SMITH, *Advertising Manager*
MARGARET MARR, *Assistant Adv. Mgr.*
ELIZABETH SMITH, *Assistant Bus. Mgr.*
HELEN C. HENDERSON, *Credit Manager*
ELIZABETH K. JEHN, *Subscription Mgr.*

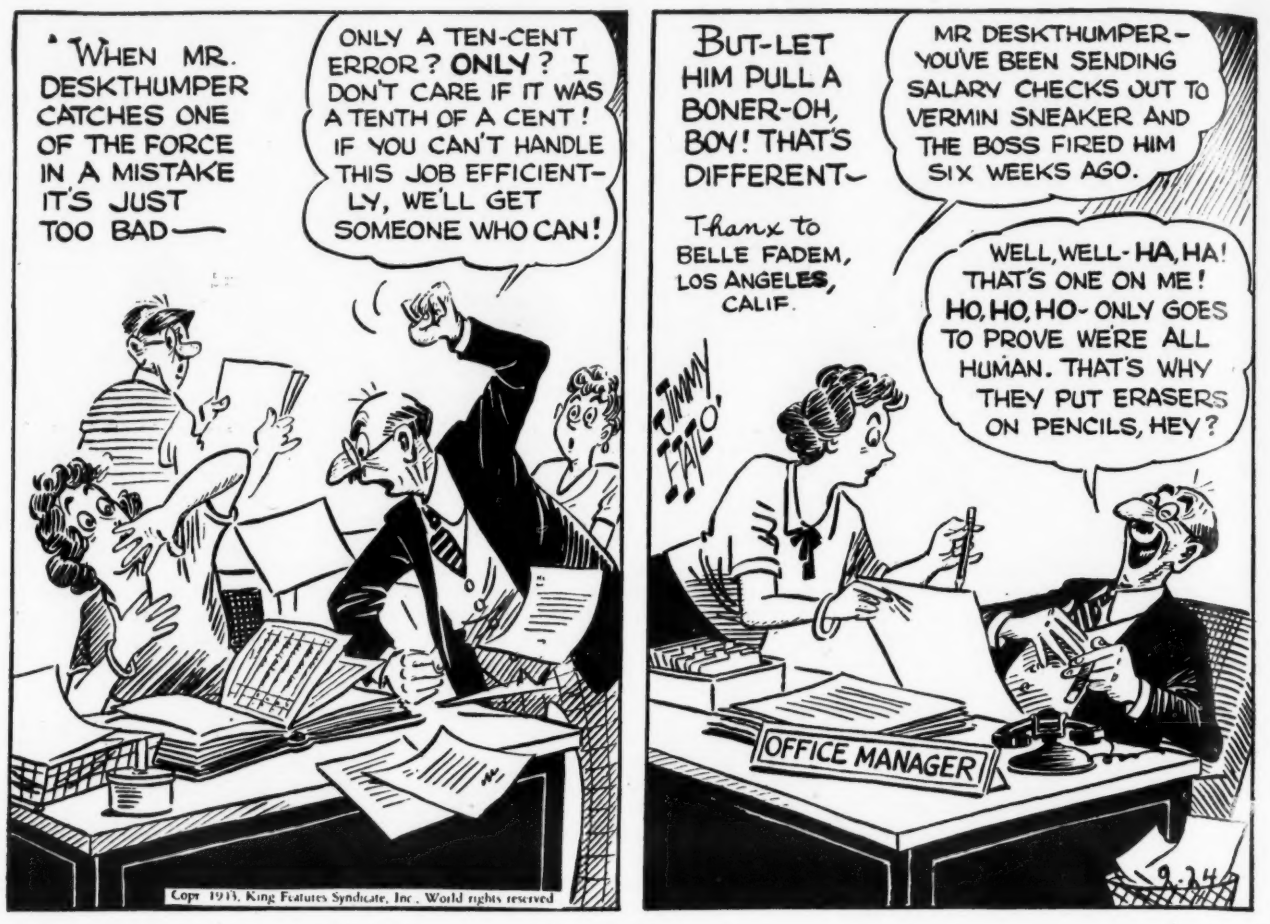
On leave of absence to serve our country
U. S. Army: RICHARD A. NEUMANN, JACK SWEET, GEORGE L. COLLINS, GEORGE M. HANNING, ALVIN E. HORNKE, HUGH T. MAHAR & HARVEY HARTWIG.
U. S. Navy: ROBERT P. NIXON, ED HENDERSON, JOHN R. ADAMS.
U. S. Marine Corps: PAUL R. PARK.
U. S. Army Air Forces: JIM MCCALLUM.

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOLUME 38, No. 17, SERIAL No. 736
APRIL 26, 1943
Copyright, 1943, Business News Publishing Co.

They'll Do It Every Time

By Jimmy Hatlo


WHEN MR. DESKTHUMPER CATCHES ONE OF THE FORCE IN A MISTAKE IT'S JUST TOO BAD—
ONLY A TEN-CENT ERROR? ONLY? I DON'T CARE IF IT WAS A TENTH OF A CENT! IF YOU CAN'T HANDLE THIS JOB EFFICIENTLY, WE'LL GET SOMEONE WHO CAN!
BUT-LET HIM PULL A BONER-OH, BOY! THAT'S DIFFERENT—
Thanx to BELLE FADEM, LOS ANGELES, CALIF.
MR DESKTHUMPER—YOU'VE BEEN SENDING SALARY CHECKS OUT TO VERMIN SNEAKER AND THE BOSS FIRED HIM SIX WEEKS AGO.
WELL, WELL—HA, HA! THAT'S ONE ON ME! HO, HO, HO—ONLY GOES TO PROVE WE'RE ALL HUMAN. THAT'S WHY THEY PUT ERASERS ON PENCILS, HEY?
JIMMY HATLO
OFFICE MANAGER
Copr 1943, King Features Syndicate, Inc., World rights reserved

How OPA Helped Create Inflation

AMENDMENTS to OPA Maximum Price Regulation No. 139, which were published in full in the April 12 issue of AIR CONDITIONING & REFRIGERATION NEWS (and nowhere else) are considerable improvement over the original order, but they really come almost too late. (This is the regulation that applies to Used Refrigerator Prices.) The horse has been stolen.

That original order was one of the dumbest ever to come out of Washington. As far as we are concerned, it gets the Putty Medal as the all-time low in stupidity. The NEWS yelled about it for months, with no effect whatsoever on the high-domed Necromancers of Charts who infested OPA's nether labyrinth. They had made their regulation, and we were stuck with it.

Instead of curbing inflation, that goofiest of regulations succeeded in adding notoriously to inflationary forces by:

(1) Removing wanted products from the market

(2) Doubling, trebling, and quadrupling the actual selling prices of used refrigerators.

Dealers who had used refrigerators on hand had generally paid more for them (counting rehabilitation costs) than they could sell them for under Regulation No. 139. So, they just dismantled these refrigerators for their parts.

People who owned refrigerators stopped trading them in or selling them to dealers when they learned about the "low ceilings," and consequent low bids.

Instead, they advertised these individual refrigerators in the want-ad sections of the newspapers, and had anxious war workers bidding against one another. Prices of $200 and $250 for refrigerators which sold new for $150 were common.

The OPA regulation did not cover these transactions, because they did not go through dealers. Such transactions have taken place because people simply have to have refrigeration, and new families arrive every day in war production centers.

Had the original Regulation No. 139 permitted resale prices high enough to cover the dealer's cost of rehabilitation plus a fair profit, this situation would never have come into existence. And the *price paid* for used refrigerators would be much lower than it actually has become.

Prentiss Brown has already made some pregnant moves since he took over OPA, including the removal of powers from the army of OPA lawyers, who had been so successful in making OPA orders the most unintelligible prose to appear since the heyday of Gertrude Stein.

Now if he would also shear powers from some of the Sultans of Silly Statistics, Guerillas of Goofy Graphs, and Monarchs of Misleading Memoranda, he'd be doing the country—and the practical men in OPA—a great service.

This country's economy is too complex and too sensitive to be regulated by statisticians whose data is always incomplete and out-of-date, and whose methods of concocting regulations are seldom tainted with the commercial breath of real experience.

LETTERS

DEALER SAYS REPAIRMEN ARE GETTING 'HOGGISH'

E. E. PAULLY & CO.
232 North Main St.
Cheboygan, Mich.
Representing Delco Products Since 1915
Frigidaire Since 1921

March 31, 1943

Editor:

So many of our good refrigeration mechanics have entered the service that the few who are left are as independent as a "duck on water." Take for instance here in Northern Michigan: what few refrigeration mechanics are left, are not satisfied with receiving $1.25 to $1.50 per hour for service rendered the dealers as well as collecting the same amount from their customers.

These independent refrigeration mechanics, who are not satisfied with this high pay, also wish to cut in on the dealer's profits, especially on used equipment. However, they would not wish to take the responsibility of a dealer's overhead. They also positively know that they can take advantage of what few refrigeration dealers are left.

However, this does not include all good refrigeration mechanics but simply a selfish few who makes it "tough" for the different refrigeration dealers.

The writer's answer and suggestion is this: There are many good experienced automotive mechanics left whose business has been slacked up at this writing, who are beyond the age limit for the draft, and who dislike the idea of moving away from their own homes and families—who would like to keep on going in their particular trade. They could become refrigeration service men if they were retrained.

My suggestion for your very nationally known popular AIR CONDITIONING & REFRIGERATION NEWS would be that you would immediately start a correspondence course in refrigeration for these above mentioned mechanics throughout the country.

By so doing you would automatically help to preserve and save precious food for national defense which otherwise might be spoiled.

For any information which you would like on the writer, you may call my old friends, namely: W. F. Armstrong, vice president of Nash-Kelvinator, and R. F. Callaway, former vice president of Frigidaire, both parties being located in Detroit.

For your information, wish to state that the writer sold the first Frigidaire in America while there were only 11 Frigidaires in Detroit, which were for experimental purposes. This was before Mr. Durant took same over for General Motors.

In conclusion, if you care to publish this letter, same is entirely satisfactory with the writer and all concerned in the refrigeration business.

E. E. Paully

P. S. Our subscription for the REFRIGERATION NEWS has recently expired. Would deeply appreciate it if you would renew same for a year and upon receipt of your statement, we will forward you our check covering same.

Answer: See front-page editorial, "New Sources of Manpower for Refrigeration Service," in April 12 issue of AIR CONDITIONING & REFRIGERATION NEWS, and place your orders for our "Master Service Manuals" early—while there are still some in stock.

P-126 MAKES MANDATORY RETURN OF OLD PARTS

Refrigeration Maintenance Corp.
321-27 E. Grand Ave., Chicago, Ill.

Editor:

In one of the recent issues of the NEWS an article appeared making reference to a recent ruling of the War Production Board requiring defective refrigeration parts to be taken in trade when any new or replacement parts were installed on a customer's equipment. Will you kindly send us the number of this War Production Board order or an excerpt from your magazine giving this information?

A. G. Weil, Manager

Answer: Text of the revised Order P-126 was published in the Jan. 25 issue of AIR CONDITIONING & REFRIGERATION NEWS. The provision about the exchange of parts will be found in paragraph (d) (3).

Also, on page 4 of the Feb. 8 issue there is an interesting commentary on this matter by Harry Alter of the Harry Alter Co.

NEW BOOKLET WILL GIVE REVISED INDUSTRY ORDERS

Ideal Cooler Co.
2953 Easton Ave.
St. Louis, Mo.

Editor:

We are interested in obtaining a booklet containing all government regulations and orders, as amended to date, which are applicable to the refrigeration industry.

If such an edition is available we would appreciate receiving one as soon as possible and you may bill us for same.

Harry E. Creighton,
Office Manager

Answer: We published last year a book which covered government orders applying to the refrigeration industry, but most of these orders have undergone major changes in the past few weeks, so that the book is now obsolete.

We are making plans to publish an up-to-date edition of this book on government orders applying to the refrigeration field in the very near future.

QUOTED

ARRIVING back in America at the deadline hour, there is not time to relate in full the many interesting and useful items gleaned from six weeks' close study of English distributors and the part they are playing in the war.

It is gratifying, though, to report as a highlight that there still are distributors in England, that they are still doing their jobs, still calling on industry, still carrying stock and selling from stock to factories virtually on the front line.

This is news that won't keep.

For months before this study was begun, increasing talk was heard that England's industrial distribution had been "streamlined," supposedly to make for greater efficiency and for economy of time, materials, manpower and money.

Horsefeathers!

English distributors have not been consolidated.

They have not been concentrated.

They have not been eliminated.

They have not been nationalized or regimented or "taken over."

On the contrary, the majority of them have an official standing with the British government. They act for the government in distributing Lend-Lease tools and supplies. They perform many jobs directly for the war ministries, jobs that may be outside their normal scope of operation, but jobs for which they are peculiarly fitted.

The answer is simple.

When the chips were down, when England's back was to the wall, when the decks were being stripped bare for the expected final stand—England saw and knew that her distribution system would have to be kept intact if England herself was to remain intact.

That is the decision that was made in a country that has been bombed and purged by fire, strafed by machine gun and cannon, threateded by starvation, and living for months in grim anticipation of the final blow by actual invasion.

The fact is all the more significant and conclusive when one considers the short distances between English cities and the concentration of industry within a relatively small area. The thought is striking that if distribution measures up as essential against the life-or-death yardstick that has prevailed in Britain, it must be 10-fold more important in America where distances are counted not in hundreds of miles but in thousands.

Life is no bed of roses for distributors in England, but at least they are free from the threat of extinction by bureaucratic edict. This, plus a much smaller burden of red tape and petty regulations than is found in America, enables them to perform historic feats of service and labor, to direct their full energies toward their country's fight.

That's as it should be.

It can and it should happen here.

The sooner the better.—John J. Welch, Editor, "Mill Supplies."

Advisory Committee At Last Is Given Opportunity To Discuss Industry Policy

Group Begins To Function More in Line With The Apparent Purpose of Such a Committee

A. B. Schellenberg, President, Alco Valve Co.*

The Air Conditioning and Refrigeration Industry Advisory Committee may be said to be rather painfully going through the various stages of man. I wish I could report to you that it has reached its maturity but, unfortunately, we have not as yet arrived at the day when the Advisory Committee can say: "Today I am a man." I can assure you that progress is being made and that there are many signs of healthy growth and advancement all around us.

As I see it, there have been three major phases of the Industry Advisory Committee. I feel confident as an Audience; then, as a Critic's Committee and, ultimately, as an Advisory Committee. I feel confident that most of my remarks apply to all Industry Advisory Committees and not just our own Industry.

What criticism I may make in this direction, I assure you, is constructive and is not leveled at our Section of WPB. Many of the over-all policies of War Production Board, covering all Industry Advisory Committees, are responsible for the present situation. I have talked with members of other Industry Advisory Committees and find that our problems are almost identical.

I am sure that almost all of you remember the audience phase of our Industry Advisory Committee for almost all of you attended some of the early meetings. You will recall that in the days of the OPM an Industry Advisory Committee was a veritable mass meeting. I am sure many of you will recall large meetings of the type addressed by Mr. Knudsen. For quite a period of time there was a parade of new Industry Advisory Committees under the direction of new government men and their average life was one meeting.

Once a Mere 'Audience'

The sole function of the Industry Advisory Committee in those days was to provide an audience for the reading of new government rules. The meetings seldom lasted a full day. The agenda was crowded with speeches by representatives of various government bureaus and no opportunity was provided for assistance from the Industry representatives. At those meetings we were told; we listened; and went home with our tails between our legs.

Over a period of many months, as you know, new Industry Advisory Committees were frequently set up and the number of its members constantly decreased until there were but 10 men appointed on the last General Industry Advisory Committee. This was real prograss for, at last, a workable unit came into existence. A small group of representative men in intimate meetings with government agency representatives can accomplish a great deal more than large unwieldy groups.

I am sure I do not know how, or why, the present 10 men were selected. I do know, however, that someone, whether knowingly or not, picked 10 aggressive, conscientious men.

I recall the first meeting of the present Industry Advisory Committee, when it amazed and dumbfounded the WPB section men by insisting on working into the night and staying over to continue working the next day on something the WPB men I am sure, had expected to read to us as an established fact. At this first meeting it was pointed out that one of the major difficulties of previous Industry Advisory Committees had been the lack of regular meetings. It was, therefore, agreed that regular monthly meetings would be held and this was the first real step in the right direction.

The present committee has on occasion exerted itself in its role as Industry Representative. When other sections and divisions of WPB were holding up the issuance of the badly needed Repair Maintenance Order, your Committee, with the full knowledge of those in our Section of WPB, requested and was granted an audience with one of the top WPB officials. During the audience with this gentleman he observed that members of your Committee were mad and they promptly assured him that was the case. This incident materially speeded up the issuance of the Repair and Maintenance Order—in fact, it was issued one week after this conference.

Your Industry Advisory Committee has left the Audience Phase of its growth and has been in the Critic's Committee Phase. The primary funcion of the present Advisory Committee has been to criticize rulings and forms already constructed by WPB. I assure you that, for the most part, the orders as issued have been as much a surprise to the Advistory Committee Members as they have been to you.

In the Dark on Some Orders

Orders and rulings have become an established fact, or so nearly so, before the Advisory Committee has an opportunity to discuss them and, therefore, it has been unable to contribute very much. The Industry Advisory Committee has not had the opportunity to help very much in the molding of policies.

It seems to me that if the Committee is to be truly an Advisory Committee it should function very much as the Board of Directors of a company in discussing and formulating over-all policies. To continue the example, the Advisory Committee has actually functioned more in the capacity of the stockholder attending the one annual meeting where he is given the opportunity of complaining and criticizing, but action's already taken by his company.

The Industry Advisory Committee would like very much to work on fundamental problems and assist in the formation of policies. Until this happens the Committee cannot take credit or responsibility for orders and rulings issued by WPB. I am delighted to report that much progress has been made and there is every indication that the Committee is, at long last, approaching the point where it will be an Advisory Committee.

At our last meeting it was our privilege to enter into broad policy discussions with the government officials of our branch and section of WPB. This was most encouraging. I feel that this same transition is slowly taking place in all of the Industry Sections and Branches of WPB. There are indications that the general policies of WPB itself are veering in the direction of using Industry Committees as truly Advisory Committees.

Fault Not All WPB's

If we will review the past it will, I believe, become obvious that all parties concerned had to go through an educational period. We cannot place all of the blame upon the WPB men. Altogether too many Industry representatives were primarily axe grinders who were only interested in solving the individual company problems and occasionally getting something for the Industry. All too frequently, their motives were primarily selfish and did not consider too seriously the over-all war effort. All of this has pretty well changed now and most Industry men are thinking in terms of winning the war above all else.

In this connection, I am reminded of an incident that occurred about two weeks ago. I was stopping at the Engineers' Club in New York and late on Saturday night returned to the club. Before going to my room I stopped in at the bar, which was quite empty. After a few words with the bartender I sat down by myself. In a little while a first officer of the British Merchant Marine entered the bar and, since we were the only two present, joined me.

This was his first trip to this country and he had spent all of Saturday seeing the sights: the Empire State Building, etc. He had arrived late Friday night and was shipping out early Sunday morning. We sat and talked for several hours and when we said goodnight he very kindly said that he was very happy to have had an opportunity to talk with me for he felt it made his trip to this country a little more complete. You see, he explained that I was the only American with whom he had talked.

When I got to my room I began thinking of what he had said and what impressions I had left upon this Englishman for, after all, if his whole idea of Americans was to be derived from the few hours conversation with me, my remarks and actions suddenly became very important.

I tell this story because it so beautifully indicates what has happened over the past several years in Washington. The government people have gathered their impressions of the Industry from contacts with a few individuals most of whom, at least in the beginning, were vigorously and selfishly grinding their own axes. I think it will be well for all of us to bear in mind in our dealings with representatives of various government agencies that we may be forming their opinion of an entire Industry.

There is just one other phase of the Industry Advisory Committee that I would like to briefly mention. If it is to be a perfect committee and we are to ultimately become truly Advisory, we should also become truly representative of the Industry.

This means that the men serving the Industry Advisory Committee should consider themselves as a Congressman or a Senator and make every effort to represent everyone in Industry. A very encouraging sign in this direction has been the number of letters written to the committee members by individuals in our Industry. After the Task Committee report on Repair and Maintenance situation we, on that committee, received a number of interesting letters.

Seek Word from Field

We are today receiving letters from all over the country dealing with the Manpower Situation, Material Situation and other Industry Problems. This is very healthy for it makes it possible for the members of the committee to bring to meetings all of the problems of the Industry. To be real Industry representatives we should be famliar with problems other than those of our own company or even our own segment of the Industry. It is to be hoped that some day your Industry Adviory Committee can earn the confidence of the Industry to the extent that it will present to them its problems.

If this committee is to be truly representative of the Industry it is only fair that the Industry should be appraised of what it is doing. At one of the very early meetings of the present ten man Industry Advisory Committee it requested that copies of the minutes of the meetings be distributed to the Industry generally. WPB does today issue press releases generally covering the Industry Advisory Committee meetings.

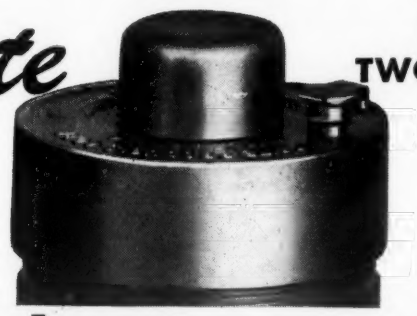
We hope that some day wou will receive very complete transcripts of everything we do, with the possible exception of secret or confidential details bearing directly on the war effort. I hope, too, that some day it will be possible for members of the Committee who happen to be in Washington to sit in audience on Industry Advisory Committee Meetings just as the Halls of Congress are open to all of us.

In conclusion, I would again, like to assure you that a great deal of progress has been made and that there is every reason to believe that we will some day soon be an Advisory Committee in fact, as well as in name.

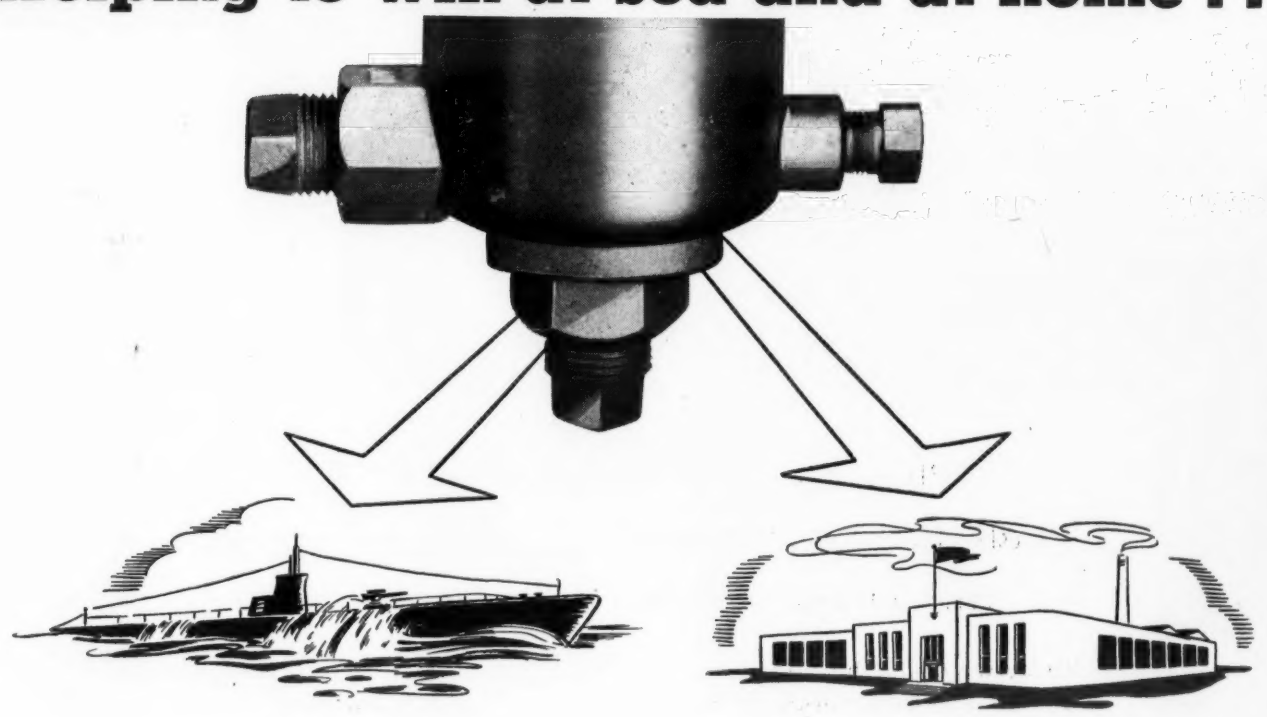
*Address given before the meeting of the Refrigeration Equipment Manufacturers Association, April 13, in Chicago.

Temprite

CONSTANT PRESSURE
TWO-TEMPERATURE VALVES



Helping to win at sea and at home . . .



WHETHER it is in one of our submarines hunting for enemy ships or in one of our plants making fighting equipment, Temprite Constant Pressure Two-Temperature Valves are "on the job" maintaining constant temperatures and improving performance of refrigeration systems.

Today, trouble-free refrigeration systems are more important than ever before, and that is why so many Temprite Valves are today on submarine installations—their rugged construction and dependable performance make them ideal for this tough and exacting work.

The Temprite Two-Temperature Valve is an essential part of any multiple type refrigeration system and is also recommended for use on single applications where closer and more constant regulation is required than can be furnished by the condensing unit control switch.

Available in 4 sizes to permit exact selection for *your* particular application.

★ Features ★

Easy to Adjust • Easy to Install • Wide Range of Adjustment • Close Temperature Control Extreme Sensitivity • Rugged and Dependable

Dealers

The Temprite Constant Pressure Two-Temperature Valves are available for dealers and distributors on authorized orders and orders direct from our armed forces. Write our sales department for complete details.

TEMPRITE PRODUCTS CORP.

Originators of Instantaneous Liquid Cooling Devices

43 PIQUETTE AVENUE • • • DETROIT, MICHIGAN

Ranco Finds Planned Training Makes Women Workers Capable

By E. C. Raney, President and General Manager, Ranco, Inc., Columbus, Ohio*

The value of women in our particular factory was recognized at the time we started quantity production of thermostatic controls about 14 years ago. This work was light and the parts were small and ideally adapted to the superior dexterity inherent in women.

During the depression period from 1929 to 1935, our company was particularly fortunate in experiencing a steady increase of business while industry in general was at a low ebb.

As a result of the general unemployment of a large number of men who were heads of families, we restricted the employment of women to single women or women who were supporting a family. In other words, we tried to distribute our employment to the families most deserving of employment assistance.

The outbreak of World War II has brought about a complete reversal of employment conditions. Army enlistments and war industries have created a manpower shortage of such magnitude that women employment in industry is as essential as men are to military operation. There are just simply not enough men to do both jobs, but we may take great pride in the response women are giving to industry's need.

A specific example of how women are being used in industry may be of interest at this time, and I hope we may be pardoned for using the experience of Ranco, Inc. as an illustration since we can thus speak from personal experience.

During the many years of women employment in our production we have found them to be very proficient in routine operations and they enjoy a fixed routine better than do men. It is our belief that the natural instinct of men whether prompted by indolence or ingenuity is to look constantly for easier ways of doing a job and to tire of fixed routine. Women when once trained for a specific operation where the work is easy and surroundings are pleasant, develop a remarkable skill and proficiency.

GROUP LEADERS DO TRAINING

Late in 1941, we received our first major contract for the production of binoculars for the Ordnance Department. We immediately started an educational program for this production, the best women workers who had been with us for a considerable time were selected to receive a training course so that in turn they might become group leaders in training others.

This transition from building thermostatic controls to building binoculars involved a serious training program, since the building of binoculars involved a complete new technical training for which our operators had never had any experience. We also selected a few men of technical and optical experience who were to have charge of our operations later on.

In order that this training might be in progress while our shop facilities were being obtained and new equipment and suitable space being provided, these women operators and men were given special instruction. The men were sent to study the existing procedure of manufacturing parts used by some of the leading optical manufacturers who were already in production.

COMPETITIVE ANGLE

A group of women who were to become group leaders were given a short training program at our factory, with the understanding that those who made the best showing would be selected to go to the Frankford Arsenal at Philadelphia for a two weeks training under the instruction of the Army Ordnance. The girls all worked so hard and made such fine showing that when the time came to select those who were to go, the management decided to send all of them as we felt their keen interest and hard work should be rewarded by whatever honors possible.

After these women returned from Frankford Arsenal we gave them a course of instruction at the Ohio State University on the basic theories relating to optics in a special course prepared particularly for this group.

During the time that this training was going on, we had obtained parts for 100 pair of binoculars on which they were continually practicing assembly and calibration so as to become familiar with all of the problems relating to the assembling and adjustment of this instrument. The women who had received this special training have since proved their value and a number of them now serve as inspectors and group leaders with a thorough understanding of the detail assembly and calibration.

By March of 1942, we had most of the machinery installed for making the various parts used in the assembly of binoculars and a course of training was then started with women operators on practically all of the machining operation, these women operators were trained to do some specific operation and very quickly gained experience so that they could produce good parts.

TEACH THEM A SPECIALTY

In this training we did not attempt to give all of the operators a general course of training but made each of them specialists on some particular operation so that they could be of greatest value in the shortest possible time.

By June of 1942, this training program had advanced to the stage where we were beginning to make substantial deliveries and this production increased rapidly up to full schedule.

Another interesting article which we are manufacturing is a very highly sensitive precision instrument used in the automatic flight control of Army airplanes. Since this instrument was of a very technical electrical nature, which only one having highly technical education could understand the operation of the device, it was thought by some in our organization that this was a device too technical for the employment of women operators.

Experience has taught us, however, that women operators can be trained to assemble and test these devices with as much proficiency as men by having the operations broken down to a formula and systematized so that each operation becomes a matter of routine observance of performance within specified limits. With the continued demand by the draft boards for more and more men, we have adopted the policy of training women operators for all machine and assembly work where the operation can become a matter of routine.

Eventually we feel that we will be working with a much higher percentage of women than was ever considered possible in the past. At present we are using better than 60% women operators, in fact we are only contemplating being able to hold a skeleton group of technical men, superintendents and foremen who will be used principally in supervisory capacities and in setting up precision tools and machines for women operators. We now have women operators on all types of precision machinery and inspection doing a very satisfactory work after once being properly trained for a specific operation.

To meet the increased schedules which the Ordnance department and the Army Air Force are demanding from us, we know that there are not enough men available to take care of the expansion and we are planning to continue our expansion to a very great extent through the employment of women.

WHERE THEY COME FROM

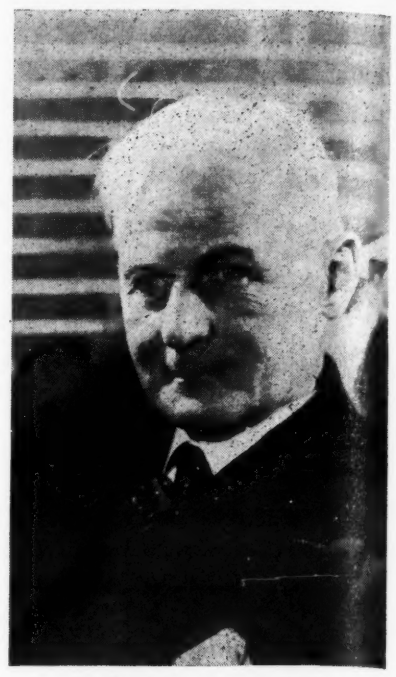
Under the present War conditions, a great many women have been attracted to our factory from every imaginable field of previous activity. Our assembly line on instruments and binoculars have a very interesting combination of women, very few of whom ever worked in a factory before, some come from the field of entertainment, some nurses, some dieticians, beauty operators, teachers, wives of soldiers, wives of college men and many other representative groups. A number of these women are working in our plant because they feel that they are contributing in a direct way to the War Effort and prefer this work.

A number of our boys have enlisted and I believe the majority of them are in the Army Air Force and since all of the instruments we are building are used on either fighter or bomber planes, the women feel that they are indirectly doing something which will be directly beneficial to their husbands, friends or to the general cause of winning the war.

A number of women have told us voluntarily that at the end of the war they expect to step out of their position in industry and make room for the returning soldiers, as they felt we would be greatly indebted to the soldiers and this would be their contribution toward repayment of this debt.

*Talk given before the Cincinnati Section American Society of Refrigerating Engineers Meeting, March 15, 1943, Cincinnati, Ohio.

Now in Dayton



JAMES R. McCALLUM

McCallum To Work On Airtemp Products

DAYTON — James R. McCallum has joined the engineering staff in charge of the laboratory of Airtemp division, Chrysler Corp., according to a recent announcement by Allen P. Livar, chief engineer.

Mr. McCallum has been associated with the Chrysler Corp. laboratories in Detroit for a number of years, where he has specialized in the development of refrigeration and heat transfer equipment.

In announcing the appointment, Mr. Livar stated that Mr. McCallum is working closely with Charles Neeson, Airtemp director of cooling research and designer of the Airtemp radial compressor. Mr. McCallum, also, will devote considerable time to the Airtemp post-war line of refrigeration machines.

The Machine For Your Next Job...
If it's a refrigeration job ...no matter how big or how small...we can supply Lipman equipment to fit the specifications. Let us work with you.
GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-3, Beloit, Wis.
Model 153 Water-cooled Machine

What we are making today is Uncle Sam's business . . . what we make tomorrow will be your business!
Today we fight! Our strategically located modern factories are driving night and day to hasten victory.
But, even as we fight, we are gaining experience and knowledge which will make for a better America, after this war is over.
Here is a vast reservoir of engineering, metallurgical and mass precision manufacturing skills which all industry has long recognized.
Where infallible precision is an engineering "must" and vital parts must be produced on a quantity mass-production basis—as is so notably the case in the aviation industry just now—Houdaille is a trusted source of supply.
Anticipating the requirements of industry, in war as well as in peace, Houdaille has been one of the pacemakers in this country's engineering and manufacturing progress.
In the post-war world, on land, on sea, in the air, and in your own home—you will benefit increasingly from Houdaille's creative and manufacturing skills.
BUY U. S. WAR BONDS
HOUDAILLE-HERSHEY CORPORATION
General Executive Offices, Detroit, Michigan
PLANTS AT: Buffalo, N. Y. ★ Cheektowaga, N. Y. ★ Jackson, Mich. ★ Detroit, Mich. ★ Chicago, Ill. ★ Decatur, Ill. North Chicago, Ill. ★ Muskegon, Mich. ★ Oshawa, Ont., Canada
HOUDAILLE'S PEACETIME PRODUCTS: Houdaille Hydraulic Shock Absorbers for Automotive, Railway and Industrial Equipment ★ Bumpers and Grille Guards ★ Ignition Locks ★ Brake Levers ★ Air Cleaners ★ Crankshafts and Camshafts for Aircraft, Automotive and Marine Engines ★ Aircraft Landing Struts and Shimmy Dampers ★ and many other precision-made parts for the Automotive, Aircraft, Electrical Refrigeration, Radio and other industries.

Task Committee Proved Worth In Case of Water Cooler Order

Gov't Agencies Hear Out a Representative Group

By C. M. Cordley, Cordley & Hayes, New York City

My experience with a task committee is limited to one job recently done for WPB covering the water cooler industry.

Our Task Committee consisted of three men selected from manufacturers—Lee Love of Ebco, Duke Hildreth of Westinghouse, and myself. Our study covered package type, self-contained drinking water coolers.

These water coolers use critical materials—copper, steel, etc. They are classified as a "Civilian Supply" item despite their extensive use by the Army and Navy.

Even before Pearl Harbor, many officials in Washington were questioning the necessity of continued production of water coolers. Little thought was given to the function they perform—and they were classed by many as a "comfort" item.

Two years ago, our Industry lacked any trade organization—we hardly knew each other by sight. Those of us who went to Washington to fight for continued production, were giving conflicting and unstudied opinions of the need for water coolers. By last spring, however, a few of us had organized an informal trade association.

So, a year ago, when the copper shortage particularly threatened our Industry with extinction, we asked Sterling Smith to call us all together for the purpose of working out a conservation program. Thanks to Mr. Smith's cooperation, and the united effort of our Industry, a limitation order, which issued last July, standardized production on a handful of models, with limited copper content —for shipboard use, war plants, military hospital and tropical land use.

However, we apparently failed to prove the essentiality of water coolers for land use. (The essentiality for shipboard use is fully recognized.) Late last fall, we learned that the production of all land use water coolers was to be discontinued under the new L-38 amendement.

By this time, we had developed a better trade organization, had affiliated ourselves with Rema, and had gained the invaluable help of Bud Hanson as our trade secretary.

Stay of Execution

We met early in December and a wire was sent to Donald Nelson requesting 30 days to present factual data as to the vital need of self-contained water coolers for hospitals and essential industrial use. We also appropriated $2,000 to assemble and compile such data in printed form.

Our request to Donald Nelson was granted and our Industry was called to a WPB meeting on Jan. 14 of this year. Our factual data had been hastily assembled in scrap-book form and important extracts were read to an assembly including members of the Refrigeration Section, Civilian Supply, OPA., Labor Production, Conservation, Army, and Navy.

The reaction was favorable, and at this point our Task Committee of three was appointed by a ballot of the water cooler manufacturers.

Our task was to prepare specific recommendations as to when, where, and under what conditions water coolers should be recognized as an aid to the war effort. It was also indicated that certain Industry statistics would be helpful, but we were properly warned, as a Committee, against obtaining such data from the individual manufacturers.

Our Committee met within a week in New York and spent a day on the general frame-work of our recommendations. The gatherings of Industry statistics presented a problem. Here is where we called on "Bud" Hanson for help, as secretary of our Association.

A questionnaire was prepared for "Bud" which he sent to each manufacturer. He got 100% response, and was able to submit to our Committee, the combined total figures for the Industry which we needed. Each manufacturer was thus protected against showing his individual Company data.

Midnight Session

Our Committee was particularly anxious to have the unanimous approval of our recommendations, by our entire Industry. The importance of having unanimous support, prompted us to assemble all the manufacturers in Washington on Feb. 10, the day before our second hearing with WPB. There were very natural differences of opinion on the recommendations, and it was midnight before we reached a meeting of minds.

So, on Feb. 11, our Industry report together with our printed brochure entitled "Water Coolers at War" was submitted to WPB. At this point, our Task Committee was dissolved.

The Refrigeration Section took charge of the distribution of many copies of this work to various WPB and military officials whose opinions had a bearing on the final decision.

Last Friday, we learned that a new order is in preparation lifting water coolers out of the latest amended L-38, which will permit a limited production and sale to hospitals and important industrial applications.

Before closing, I would like to make one or two observations.

It is obvious that we must all expect Government regulation and control at least during the War. Such Government control may be exercised more easily and intelligibly if each segment of the Industry is suitably organized.

However, it is all important that the policies of such trade organization be constructive and cooperative.

I was particularly interested in the research and compilation of our brochure, "Water Coolers at War." I regret that our Industry delayed so long in taking this step and that it had to be done in such haste. But, without it, I doubt if the essentiality of water coolers for land use would have been recognized.

WPB officials viewed water coolers as so many pounds of copper and so many pounds of steel which they thought should be turned into War materials. Our job was to show the other side of the picture—the functional value of this equipment, in increasing war production and reducing absenteeism.

Framework of Data

Here was the frame-work of our printed factual data:

1. **Man-power is our most critical material today, and the true source of our war production.** The health of the worker is the key to maximum production.

2. **Drinking water is the most essential food.** We verified this by quoting opinions of outstanding medical authorities. They agree that the average human consumes too little water.

3. **Drinking water must be pure and protected against contamination.** We cited various State and Federal regulations and the opinions of the best authorities.

4. **Drinking water must be close at hand,** to save workers' steps and to encourage adequate water consumption. We quoted the best authorities on this subject.

5. **Drinking water must be properly cooled.** Medical studies were cited which stressed the physiological benefit of drinking water at temperatures between 45° and 50°.

Authorities are unanimous as to the necessity of palatable and properly cooled drinking water to encourage adequate consumption. We quoted some of the best of these opinions.

Self-contained water coolers are designed to satisfy all these essential needs—in one package.

Much of our material came from medical text books and reports. We also wrote various State Labor and Health Department and key officials of the United States Department of Labor. Our brochure contains replies from outstanding men and women in this field, not only confirming our views, but stressing great concern over the possible ill effect on health of industrial workers, if modern water coolers were eliminated. Similar letters from officials of our most important war industries were obtained.

We might logically have sought the opinions of labor union officials. We did include a few letters received from top CIO and A.F. of L. officials, written a year previously. However, we did not at this time raise the issue with union officials. We wish to avoid any steps that might be interpreted as bringing organized pressure to bear in our favor.

Our book was confined to the written opinions of completely unbiased and disinterested authorities on the subject of industrial health and efficiency.

Fortunately, our Trade Association is committed to a policy of producing water coolers only when the functional value, far exceeds the small amount of critical materials consumed.

A task committee will probably fail unless it has this sort of backing from its industry.

The members of a task committee must necessarily subordinate personal interests and think only in terms of the industry as a whole—otherwise—the industry it represents will be divided and rebellious.

If government officials can gain complete confidence in trade associations, and if association members can gain complete confidence in each other, we will have made a big step forward.

Firm Penalized For Selling Scrap Wrongly

CINCINNATI—Use of aluminum, copper, tin, lead and zinc, including scrap, is prohibited to Consolidated Metals, Inc., during the next four months, by suspension Order S-273, as a result of that company's failure to comply with WPB restrictions on use of these critical materials.

Consolidated metals, smelters and refiners of various metals, melted and sold from Jan. 7 to Sept. 1, 1942, approximately 65,000 pounds of aluminum scrap without WPB authorization. During the same period the company shipped 36,000 pounds of remelted zinc to persons not holding allocation certificates. A further violation was the manufacture and sale of 28,000 pounds of automobile body solder containing tin and lead. Use of both the metals for this purpose is prohibited.

Sullivan, Westinghouse Executive, In Navy

MANSFIELD, Ohio—John A. Sullivan of the Westinghouse Electric & Mfg. Co. has been appointed a lieutenant in the United States Naval Reserve and called to active duty.

Sullivan joined Westinghouse in 1936 as manager of the Small Appliance department. At the time of his appointment to the Naval Reserve, he was a member of the war products general engineering staff at the Westinghouse plant in Mansfield.

NEW INSULATION BEATS "STILL AIR"

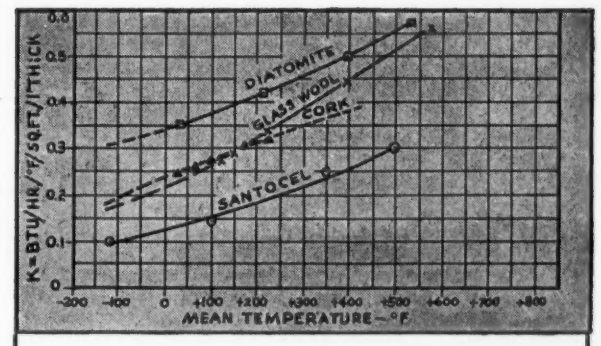
Santocel Proved Even More Efficient Than Physicists Believed Theoretically Possible

A few years ago physicists believed "still air" to be the best possible heat insulator — and that, of course, was only theoretically possible.

Today manufacturers of special low temperature refrigerating units are using a new material with thermal conductivity actually 15% lower than "still air"!

The new material is Santocel, a silica aerogel which amounts practically to a new form of matter — and opens up many highly interesting new possibilities to the entire refrigeration industry.

Briefly, Santocel is 1.7 times more efficient than glass wool or cork and more than twice as efficient as diatomaceous earth. Unlike conventional silica gel it does not pick up significant amounts of water vapor from the air. Furthermore, diffusion of moisture-laden air, a common source of insulation difficulties from practical experience appears to be non-existant in Santocel. Inert, it will last indefinitely. Properly installed, very little settling will occur.



These curves show K factor plotted against mean temperature for diatomite, glass wool, cork and Santocel. Data was taken from the International Critical Tables. Since points given were not sufficient to cover a wide range of mean temperature, curves have been extrapolated (in dotted lines) to cover the same range as Santocel.

Already used for several years with outstanding success in special low temperature units, Santocel offers immediate advantages in coping with many difficult wartime refrigeration problems.

For samples and full technical details, inquire: MONSANTO CHEMICAL COMPANY, Merrimac Division, Everett Station, Boston, Massachusetts.

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

BIGGER PROFITS ARE YOURS

WITH THIS

SUPERB PRODUCE CASE

LIMITED NUMBER AVAILABLE

WITHOUT PRIORITY

For Immediate Shipment

VEGETAIRE—The finest case that money will buy. *Write for complete franchise details.*

Sherer

SHERER-GILLETT CO., MARSHALL, MICHIGAN

Refrigeration and Air Conditioning As a War Production Tool

By L. W. Clifford, Sales Development Section Supervisor, Westinghouse Electric & Mfg. Co., East Springfield, Mass.

Controlling the Burning Rate of Powder

In rooms where powder is being handled in the process of loading it into the lethal carrier, either projectile or bomb, it is extremely important that the atmospheric conditions be carefully and consistently controlled.

The burning rate of the powder varies considerably if the relative humidity of the loading rooms is subject to wide variations. Such variance in the burning rate causes inconsistent performance of the bombs when they are used in actual combat.

It is likewise important that, in wintertime, the relative humidity be maintained at a constant level and sufficiently high to minimize the danger of explosions from static discharges.

In negotiating this type of business it is important that the desired design conditions for the particular process be obtained from the purchaser. It is also important to determine the allowable variations in both temperature and relative humidity.

At a large bomb loading plant in the South a system is being used to provide the desired conditions in the powder room.

In the powder weighing room of one of our large arsenals a 2-ton self-contained system maintains proper conditions.

Army Building $600,000 Richmond Food Mart

RICHMOND, Va.—Construction of a $600,000 market center for handling the army's perishable foods is under way on property adjacent to the Acca Yards here. The plant, to serve as a cold storage station and distribution center for receiving and dispatching of fresh vegetables, fruits and meats for Army consumption, is under supervision of the Norfolk district office of the Corps of Engineers of the Army. Foundations have been laid but no date has been announced for completion of the project.

Universal Cooler Made $41,404 In Dec. Quarter

MARION, Ohio—Universal Cooler Corp. announces for the December quarter of 1942 a net profit of $41,404 after $110,000 income and excess profits taxes. This compares to a $3,844 profit for the December, 1941, quarter.

Postwar Boom Seen In Industrial Cooling

NEW YORK CITY.—A postwar boom in industrial air-conditioning was predicted by John E. Haines, manager of the air conditioning controls division of the Minneapolis-Honeywell Regulator Co. at a two-day conference of the company's eastern representatives at the Belmont-Plaza Hotel here.

"A survey of industrial engineers indicates that control of temperature and humidity in plants building airplane and tank engines has resulted in an impressive increase in production involving high precision," Haines said, "and all indications are that post-war construction will take into account this new trend."

C. O. Fanning of the F. W. Dodge Corp. told the conference that a tremendous backlog of building plans is accumulating for the post-war period. Last year's nine billion dollar construction total will be cut practically in half this year, he estimated.

New Design Features In York Food Freezer

YORK, Pa.—A new fast freezing unit capable of handling nearly all types of vegetables, fresh fruits, seafood, and poultry at the rate of three tons an hour has been developed by York Ice Machinery Corp. The foods can be processed both in the loose and packaged form.

One feature of the new York fast freezer is its rapid defrosting equipment which permits a minimum of production interruption, and immediate resumption of peak production as soon as frost is removed from the freezing coils. The design also makes it possible to combine two or more machines into a single unit to conform with individual plant layouts. The freezers can also be operated side by side to provide parallel production line for freezing both loose frozen and packaged products at the same time.

Built in two sizes, the largest York fast freezer is capable of holding 10 food trucks at a time in various stages of the freezing process and has a capacity as high as 6,000 pounds an hour. The smaller unit is a six truck model with a capacity of approximately 3,500 pounds an hour. Each truck holds about 700 pounds of products when loaded with 15 trays uniformly filled.

Semi-automatic in operation, the freezer operates by means of a conveyor belt which moves the food trucks through the freezing compartments. The first truck is pushed into the precooling chamber by hand and then moves forward automatically as the conveyor control button is pushed. Trucks are removed at the end of the process.

Penn Switch '42 Net Profit Was $357,857

GOSHEN, Ind. — Penn Electric Switch Co. reports a net profit of $357,857 for 1942, compared with $251,564 for 1941. On 100,000 shares of common stock the 1942 profit is equal to $2.98 a share compared with $1.91 in 1941.

Wartime Meeting Brought Industry Men to Chicago

The National Refrigeration Supply Jobbers Association held its annual meeting in conjunction with the Refrigeration Industry Wartime Conference in Chicago recently, and cameraman Irving Alter caught this group who are active in association affairs during an informal business discussion. Left to right: H. W. Blythe, H. W. Blythe Co., Chicago; Frank Pond, Refrigeration & Industrial Supply Co., Minneapolis; Mary Silvers of the executive secretary's office; C. W. Dennis, Dennis Refrigeration Supply Co., Sioux City, Iowa, a vice president of the organization, who is due to be commissioned soon in the Naval Air Service; and Alex H. Holcombe, Jr., Victor Sales & Supply Co., retiring president.

The well-attended conference drew many from far points. Here, left to right, we have: Fred B. Hovey, executive secretary, N.R.S.J.A.; H. F. Nye, Railway & Engineering Specialty Co., Toronto, Canada; Pete Askew, Refrigeration Supply Distributors, Los Angeles; H. R. McCombs, McCombs Refrigeration Supply Co., Denver.

Data Book Scheduled For Release In May

NEW YORK CITY — The refrigerating Data book, fifth volume, is due off the press May 1.

The entire data book has been revised and rewritten, the fifth edition being a more complete treatment of the previous volume I, devoted chiefly to refrigeration principles and machinery.

All chapters and data present practical information based on current practice; the latest refrigerant tables, for example, give the characteristics of commonly used refrigerants down to temperatures as low as —100° F. Theoretical explanations of the principles of refrigeration and air conditioning are presented with analyses, examples, problems, solutions and illustrations.

The text section covers 510 pages, while an advertisers' catalog and other sections cover 160 additional pages. The five main sections of the data book cover the following contents:

1. Refrigeration Cycles: 1. Introduction—the Refrigeration Cycle; 2. Compression Systems; 3. Absorption Systems; 4. Refrigerant Properties; 5. Refrigerant Tables; 6. Brine Properties; 7. The Refrigerating Glossary.

II. Fundamental Data: 8 Mathematical and Physical Tables, Conversion Tables; 9. Heat Transmission and Insulation, etc.

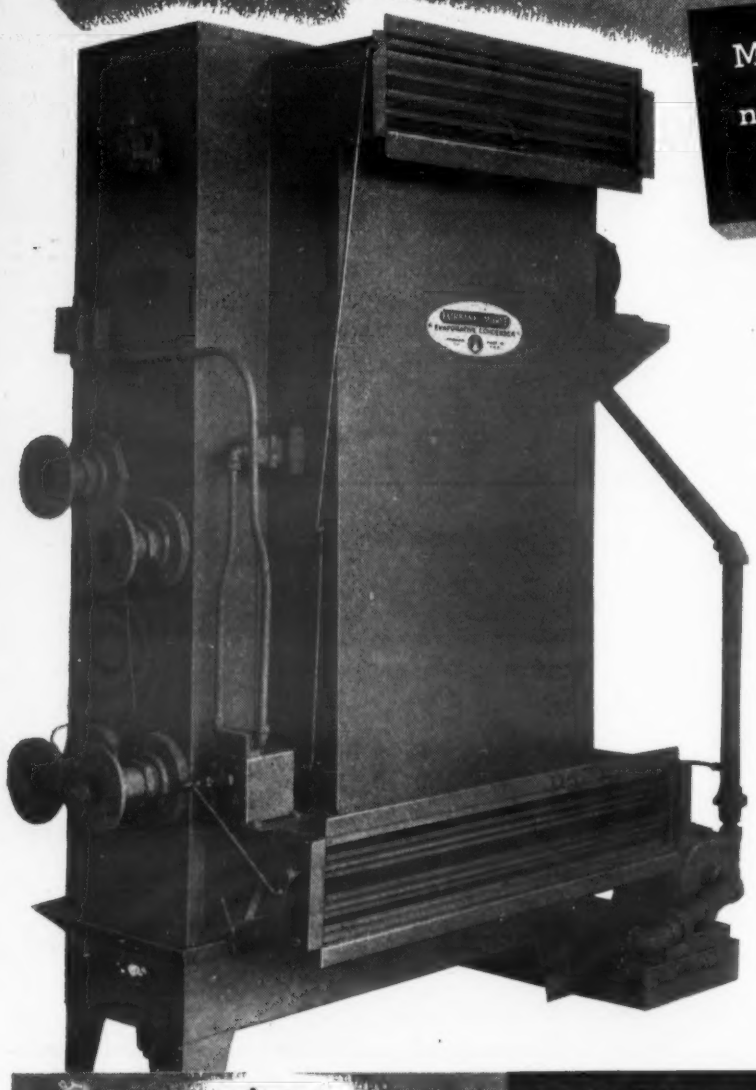
III. Industrial Systems: 18. Reciprocating Compressors; 19. Condensers; 20. Evaporators and Freezing Systems, etc.

IV. Domestic-Commercial Systems: 25. Domestic Refrigerators; 26. Insulation of Cabinets, etc.

V. Air Conditioning Systems: 31. Theory of Air Conditioning; 32. Air Conditioning Calculations, etc.

Wartime Needs Make Wartime Sales

Meet one of today's greatest needs with the Fairbanks-Morse Evaporative Cooler



TAKE quenching oil as just one example—Accelerated war production makes it imperative that the quenching bath be held at the desired temperature—*right on the nose!*

Wherever that problem exists—and it exists in plenty of plants—there is a need for the Fairbanks-Morse Evaporative Cooler.

Designed to cool oil, water, or other liquids, the F-M Evaporative Cooler eliminates many of the troubles associated with conventional direct-cooling systems:

- it provides positive, automatic control of the temperature in the quenching tank regardless of load or atmospheric conditions.
- it solves the problem of scarcity and cost of water because it uses only two pounds to dissipate 1000 B.T.U. of heat.
- it is simple, complete, sturdy, compact, and easy to install.
- and it is available in a range of 24 sizes with capacities up to 11,000,000 B.T.U. per hour at 170 degrees F. mean fluid temperature or 2,100,000 B.T.U. per hour at 100 degrees F. mean temperature.

Get complete details of this and other Fairbanks-Morse Air Conditioning and Refrigeration Equipment. Wartime needs can make wartime sales for you—too. Phone—write—wire. Fairbanks, Morse & Co., 600 S. Michigan Avenue, Chicago. Branches and service stations throughout the United States and Canada.

FAIRBANKS-MORSE

DIESEL ENGINES · PUMPS · MOTORS · GENERATORS · SCALES · WATER SYSTEMS · FARM EQUIPMENT · STOKERS · AIR CONDITIONERS · RAILROAD EQUIPMENT

Air Conditioning and Refrigeration Equipment

NOW! METHYL CHLORIDE AVAILABLE

IMPORTANT

Don't let idle cylinders hold up supplies now available. Look through your stocks and warehouses for any empty cylinders, or cylinders which can be emptied . . . *and return them promptly.*

WE expect to be able to supply the current requirements of the refrigeration industry for Methyl Chloride, subject to the regulations of the War Production Board. Order what you need but please do not stock up unnecessarily.

Electrochemicals Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

DU PONT

METHYL CHLORIDE

BETTER THINGS for BETTER LIVING . . . THROUGH CHEMISTRY

Survey Indicates Real Crisis In Refrigeration Breakdowns May Come This Summer

Only 43% 'Equivalent Manpower' Left To Handle All The Jobs

Reed Gives Results of R. S. E. S. Study on Parts and Men

By P. B. Reed, Service Manager, Electric Refrigeration & Air Conditioning Division, Servel, Inc.*

It is natural for each industry, trade and profession to over-rate its importance to the national welfare. This is not due to selfishness but to the fact that each is more familiar with his own activities and how they interlock with the overall picture than he is with the other fellow's problems. He sees his work as essential to the general war effort but he forgets that he is but one link in a chain and that the other links are as essential as he.

Essentiality and non-essentiality are not always sharply recognizable. The worker directly building a plane is no more essential than several other workers behind him who make it possible for him to build that plane. The workers in the mines, the lumber camps, oil fields, steel mills, the farms, the railroads, the trucks, machine shops, and many other industries must produce, transport and prepare the material before he can build it into the plane, and they are also war workers just the same as he is.

All these war workers must be fed, they must be housed and kept warm in the winter; they must have medical care, they must have mass and individual transportation facilities to get to and from work. All these activities and many more are bound together and interwoven into the great war effort. A breakdown in any one of these activities can and will disrupt the entire effort. If there appears to be a breakdown impending in any of the essential activities, every effort should be made to avert it, lest its failure reduce the number of shells, planes, tanks, ships and other war material going to our men or our allies on battle lines.

It is no secret that the service phase of our industry has been hard hit by the necessities imposed by war. Let us examine the situation with as little prejudice as possible, bearing in mind that essentiality is relative and that many industries and many needs are drawing from the national stock pile of men and materials:

1. Just how essential is refrigeration service to the war effort?
2. How badly is it hurt and what are the causes?
3. What steps have been taken to overcome these causes?
4. What effect will its inability to completely do its job have on the war effort?
5. What else can be done to undo some of the harm already done, prevent further deterioration and improve refrigeration service?

Essentiality of refrigeration service seems scarcely debatable to us who realize the extent to which the nation's food supply depends upon mechanical refrigeration and how necessary prompt and capable repair and maintenance is to continued and dependable operation of the equipment.

If, overnight, repair and maintenance facilities were wiped out, chaos in the food industry would result. Thousands of tons of perishable foods would be lost, there would be wide-spread damage to public health, disruption to many lines of war effort and thousands of lost hours.

Shortages of manpower and diversion of materials to the implements of war require that the nation must get along with its old machines. These are getting older and more worn day by day, some are being kept in operation by frequent repair, although in ordinary peace times they would be replaced with new equipment.

High officials have recently been stressing the necessity of conserving our food supply and limiting its consumption. Rationing has forcibly brought this to the attention of each of us. The farmers are being urged and helped to raise more food. To raise more food, to conserve it, to limit its use are futile if it is allowed to spoil through lack of facilities to preserve it.

In addition to keeping the machines running that preserve the nation's food, in hospitals, institutions, groceries, markets, restaurants, dairies and in homes, the refrigeration service engineers are charged with the responsibility of servicing the many refrigerating installations for industrial processing in war plants—coolant coolers, metal "cold" treatment, rivet cooling, aluminum sheet cooling, instrument testing, spot-welder tip cooling, etc. Refrigeration equipment for blood plasma processing and preservation must also be serviced. These are extremely important uses of refrigeration and must be kept running.

In order to determine to what extent the ability of the service engineers to handle the situations has been impaired, the Refrigeration Service Engineer's Society sent out a questionnaire to each of its 65 chapters in the United States and three in Canada, and the data thus collected is quite startling and even dismaying.

Please bear in mind that the replies were compiled by officers of the chapters and may thus be considered reasonably accurate for their areas. Every section of the country is represented and a summary of the individual replies is a close estimate of the situation nationally. The situation may be considered from three angles—materials, transportation and manpower. Of the three the latter is by far the most serious.

The material problem may be considered from two angles—the commercial and industrial equipment and household refrigerators.

Parts—and Certificates

After a long delay initially, due partly to causes that were beyond the control of the War Production Board, Order P-126 was issued. It was designed to aid the service man to get material and parts for commercial and industrial refrigeration equipment of an essential nature, with as little delay and "red tape" as possible. Under that order "Authorized Service Agencies" were appointed and to them was delegated authority to apply priority ratings to their orders for material and parts to suppliers and manufacturers. This was a very liberal and almost revolutionary step and has been of tremendous value to commercial refrigeration service.

As the ability of the original priorities A-1-A, A-3 and A-8 to obtain parts was affected by rising priority ratings the order was amended to provide ratings of AA-2X, AA-3 and AA-4. Even with these ratings tools are very difficult to obtain and the type of solder available under the order is unsuitable for a permanently gas-tight joint.

The survey indicates that 36% more material and parts are needed for refrigeration service, but there is a very critical shortage of many materials, copper, tin, steel, chromium, etc., and we can not expect to get all the material or parts we want, and generally speaking these new ratings do enable the Authorized Service Agency to get material and parts reasonably promptly.

The survey shows that, of the established service agencies deemed capable by the chapter officers, only 72% hold certificates under P-126. This is perhaps due to some misunderstanding as to who is eligible to receive the certificates. It is not necessary for a service man to be on one of the lists submitted by the manufacturers to the War Production Board, in order to get a certificate, but it is necessary that the service man apply to the Refrigeration and Air Conditioning Section using Form PD-399.

It is my understanding that a large percentage of those to whom the War Production Board sent application forms PD-399 have not made application for a certificate. Regardless of any previous experience a service agency may have had and regardless of what previous understanding they may have had, they should immediately file an application form PD-399 if they do not have a certificate. The Refrigeration and Air Conditioning Section has been very cooperative toward the service engineer and it is my belief

(Continued on Page 16, Column 1)

*Address given before the Refrigeration Industry Wartime Conference at Chicago, April 14.

POSTWAR HERMETICS

Chieftain gives you a Preview

What is the postwar picture of the Chieftain Hermetic? This is the question we are asked daily by our old friends and manufacturers who are laying out postwar products.

Chieftain has the answers to this question:

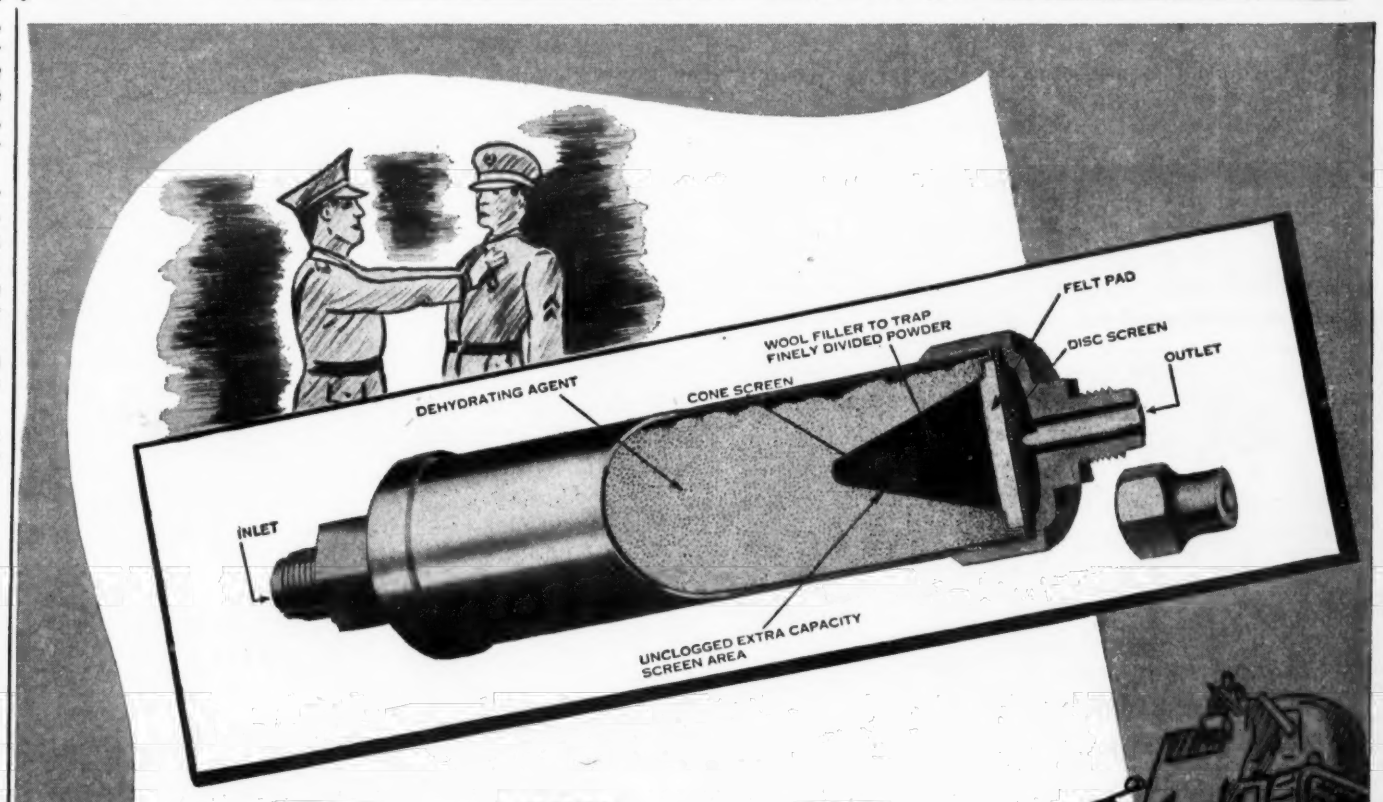
FIRST: The postwar hermetic will retain all of the fundamentals of sound engineering design which have made Tecumseh Products Company the largest independent manufacturer of hermetics and has resulted in performance and field service records that are outstanding in the industry.

SECOND: Many new features will be incorporated, several of them ready before Pearl Harbor, others the outgrowth of our wartime experience and the rapid technical development of that period, all of them proven by laboratory and field tests. This greatly improved hermetic will have greater flexibility in respect to sizes and temperature ranges. It can be used with any type of low side—expansion valve, float valve or capillary. There will be models for every application within the range of sizes.

Before starting layout of postwar products, be sure to investigate Chieftain Hermetics. Write for complete information today.

TECUMSEH PRODUCTS CO. TECUMSEH MICHIGAN

Chieftain



FOR *Efficient Service*

● Mueller Brass Co. dehydrators are provided with a special cone screen and other advantageous features which assure greatly increased efficiency in service (note illustration above.)

When a dehydrator is in operation there is a tendency for small particles of its drying agent to lodge on the face of the outlet filter. This condition will increase, particularly with dehydrators furnished with the old style flat disc screens, until the line is greatly restricted through clogging.

Restriction results in pressure drop, causing some evaporation of the liquid into gas. This mixture of liquid and gas causes trouble at the expansion valve. A decided temperature drop at the outlet of the dehydrator is an indication to the service man of this trouble.

The Mueller Brass Co. improved dehydrator is designed to correct this condition. The cone-shaped screen, filled with pure wool, directs the fine particles of the drying agent to the outside of the base of the cone. Any particles that get through the screen will lodge in the wool filler without clogging, leaving the center free for the passage of the refrigerant.

Mueller Brass Co. dehydrators are furnished in all practical styles and sizes—heavy copper shell and forged brass ends soldered in place. Write us for illustrated descriptive literature.

MUELLER BRASS CO.
PORT HURON, MICH.

Course To Take In Requesting Deferment Of Refrigeration Servicemen Outlined

(Continued from Page 15, Column 5)

that they will be most liberal in considering the application.

I repeat this: If a service agency, whether a company or a single individual rendering service on commercial or industrial refrigeration equipment, does not have a Certificate of Authority under P-126 they should apply at once, using form PD-399.

It should be remembered that P-126 deals with commercial and industrial refrigerating equipment only, and makes no provision for domestic refrigerators. The manufacturers of mechanical refrigerators for homes had fairly heavy stock of repair parts but these have been steadily drained and there is evidence that within the next few months shortages of essential repair parts for home refrigerators will be more pronounced than at present.

Tire and gasoline proved to be serious obstacles to continuance in business by refrigeration service engineers but happily these troubles have been relieved to some extent, except in certain sections where the individual tire and gasoline boards are unusually difficult.

Many of the small communities have lost all their refrigeration service engineers and must depend on getting service from nearby large cities. This has made longer trips necessary for the remaining service engineers and the reluctance of some of the local gasoline and tire rationing boards to grant the refrigeration service engineer sufficient gasoline and tires has left some of these smaller communities without hope of getting service even on equipment used by markets, dairies, farm milk producers and other essential activities.

The Copper Order M-9-C has recently been revised and the revived order offers some relief in obtaining repair parts made wholly or partially of copper or copper base alloys that are used in essential installations.

The Survey was taken several weeks ago and since that time there have been some events that have conspired to change the situation, chiefly for the worse, such as the pressure that is being put on to get men into direct war work. The figures taken from the survey, black as they are, may therefore be taken as quite conservative and not fully reflecting the seriousness of the situation at present.

They show that 15% of the service engineers have gone into military service and 23% have gone into industrial plants and maintenance in military camps and bases, making a total of 38% of the service men no longer available for civilian work. This is bad enough, but it is not all.

Parts Scarcity Adds to Troubles

Since certain new or factory rebuilt parts or complete assemblies are not available, the service engineer has been forced to spend extra time in repairing them. The Survey shows that this activity is taking 30% of his time. So that 30% of the time of the 62% of the men left is spent in work that he did not have to do before the war.

Therefore, the 62% available manpower shrinks to the equivalent of 43%.

Several factors have conspired to take service engineers out of the industry. In the early days many went to army camps and air fields then under construction where some erected copper tube lines used for distribution of water and gas. Others went into electrical, plumbing or other construction work. Some of these returned to the industry but many stayed as civilian maintenance men.

Many went into war plants because of various reasons; difficulty in obtaining material, parts, tires and gasoline; shorter and more regular hours and in most cases higher pay; less responsibility and worry; and greater security from induction into military service. Many of them went into work for which they were not specially trained or qualified—perhaps an assembly line job in which they could become proficient within a few weeks or even days. But the refrigeration industry lost a trained man, one who is almost impossible to replace.

In Seeking Deferment

In December 1942 the Selective Service System issued Occupational Bulletin No. 42 on the subject of "Repair and Hand Trade Services" in which the essentiality of the refrigeration service man is put on the same level as many other trades such as auto body repairmen, electric appliance service man, furnace installers and repairman, oil burner installer and serviceman, roofer, upholsterer, and others of somewhat more essential nature.

This bulletin merely classifies refrigerator repairmen as eligible for occupational deferment but the local board may ignore his occupational status and induct the man if they see fit. Experiences of refrigeration service engineers reported to us throughout the country indicate that the local draft boards do not realize the importance of keeping essential refrigeration equipment in operation and how badly the service industry is already under-manned.

Nevertheless, an employer of refrigeration service men should immediately file form 42A for reclassification and deferment of men who are classified 1A, and for men classified 3A the employer should file form 42B which gives the employer 15 days in which to file 42A if the 3A man is reclassified to 1A. These forms should be filed now regardless of when the probable date of call of the man is expected.

Many service engineers do not work for an employer but operate independently for themselves and so have no one to file deferments for them. However, they can file these forms themselves as their own employers. If the local board refuses to reclassify the man he can then appeal the decision of the local draft board.

This appeal goes first to the district appeal board and if the appeal is refused the inductee can appeal to the state appeal board. If they too refuse deferment an appeal can be made to the War Manpower Commission who can give deferment but they are unable to act until the district and state boards have passed on the appeal.

It is my personal belief that the refrigeration service engineer will find the War Manpower Commission more inclined to give him deferment than either the local draft board or the appeal boards, but he must go through them before he can obtain a hearing before the War Manpower Commission.

Show Your Certificate

In filing with the local board or in appealing to the district and state appeal boards and the War Manpower Commission the man should include a photostatic copy of his Certificate of Authority under P-126 showing that the War Production Board regards Refrigeration Service as so essential that they have delegated government authority to him to apply high priority ratings.

It is the recommendation of the Refrigeration Service Engineers Society that Refrigeration Service be given a separate status on a similar plane of essentiality as the skilled farm worker and that teeth be put into the order to the local boards requiring that the Refrigeration Service Engineer be deferred if he is (1) a skilled man with experience of at least two years, (2) irreplaceable in that community, (3) necessary to the continued operation of essential industrial, commercial and domestic mechanical refrigeration in that community.

The questionnaire asked what percentage of commercial and domestic refrigerators will become inoperative during June, July, and August 1943 due to lack of service facilities (including lack of material and reduced manpower). The average of the replies is 18% for commercial and 32% for domestic. In other words approximately one out of five groceries, mar-

(Concluded on Page 17, Column 1)

Facts -- About Refrigeration Repairs

"The worker directly building a plane is no more essential than several other workers behind him who make it possible for him to build that plane. . . ."

"If, overnight, refrigeration repair and maintenance facilities were wiped out, chaos in the food industry would result. . . ."

"Regardless of any previous experience a service agency may have had and regardless of what previous understanding they may have had, they should immediately file an application form PD-399 if they do not have an Emergency Service Certificate. . . ."

"15% of the service engineers have gone into military service and 23% have gone into industrial plants and maintenance in military camps and bases, making a total of 38% of the service men no longer available for civilian work. This is bad enough, but it is not all. . . ."

"It is my belief that the refrigeration service engineer will find the War Manpower Commission more inclined to give him deferment than either the local draft board or the appeal boards, but he must go through them before he can obtain a hearing before the War Manpower Commission. . . ."

"Approximately one out of five groceries, restaurants, etc. are expected to be down for an extended period during the hottest weather, and one out of three homes will be without adequate refrigeration for an extended period, due to lack of refrigeration service facilities. . . ."

"Refrigeration service is a peculiar trade . . . a beginner is just in the way for the first six months, and two years' experience is the minimum for domestic service and double that for diversified commercial experience. . . ."

"It is as idle to say that years ago we did without mechanical refrigeration and that we can do so now as it would be to expect workers in war plants to walk or ride horseback to and from their jobs. . . ."

REFRIGERATION PARTS NEEDED

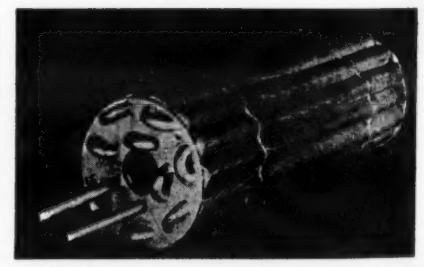
● Idle and surplus inventories of refrigeration parts can now be put to essential use in helping to maintain the nation's huge investment in refrigeration.

We buy outright for cash, usable parts for distribution to over 20,000 refrigeration service-men customers. Let us put your idle inventories to good use — you will then be helping conserve scarce and precious materials.

The Harry Alter Co.
1728 So. Michigan Ave.
Chicago, Illinois

CORDLEY
Electric
WATER COOLERS
ALL SIZES FOR SHIPBOARD AND LAND USE MEET GOVT. SPECS.
CORDLEY & HAYES, NEW YORK, N. Y.

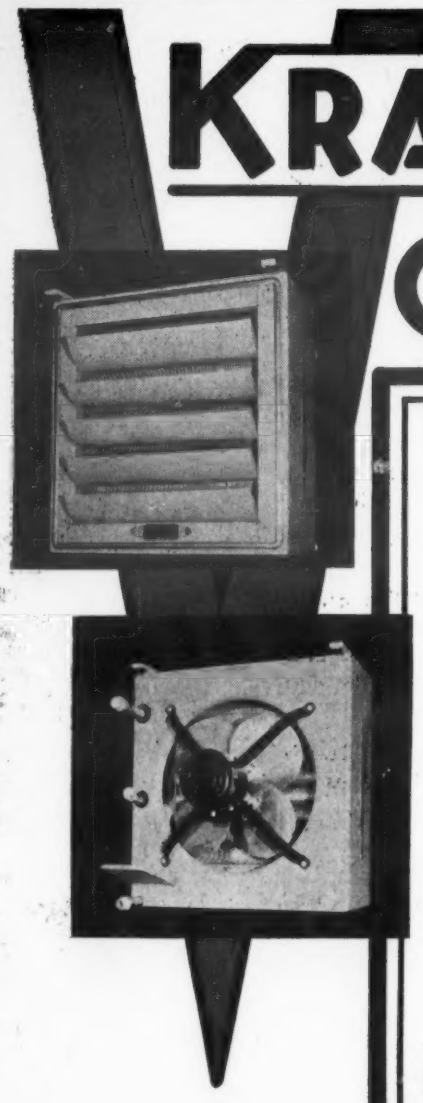
No Joints! No Leaks



This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

ROME-TURNEY RADIATOR COMPANY
222 Canal Street
ROME, N. Y.

KRAMER *Victory* COOLMASTER



New Design for Quick Delivery

AN all steel hot galvanized coil is used in the Victory Model Coolmaster. This line of units is designed to comply with the latest government limitations on critical materials. The number of models has been reduced to facilitate quick delivery.

Outstanding Features

● Accurately rated. All ratings based on tests made in accordance with accepted standards and are guaranteed.

● All steel spiral fin coil, hot galvanized after fabrication.

● No welded or soldered return bends.

● Can be used with Freon, Methyl, Sulphur, Ammonia, or Brine. Please specify if ammonia or brine will be used.

● Heat interchanger is furnished.

● One man suspension brackets for easier mounting.

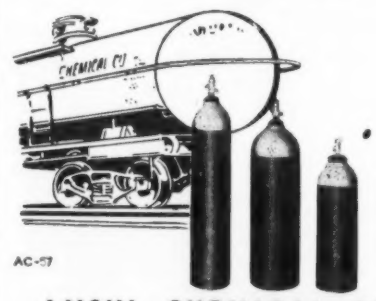
● Unusually pleasing in appearance. Finished in chrome gray shade of crackle; baked on a bonderized (rustproofed) base.

● Silent, carefully balanced fans, directly connected to totally enclosed motors specially built for fan duty and long life.

Send for Bulletin R-143

KRAMER TRENTON CO. *Trenton, N.J.*

ANSUL
— SULPHUR DIOXIDE —
Used more widely because there are more reasons for its being used.



... in carloads or handy-size cylinders

AC-57

ANSUL CHEMICAL COMPANY
Marinette • Wisconsin

PROMPT, EFFICIENT SERVICE THROUGH ANSUL JOBBERS AND SERVICE MEN NEAR YOU

Save Steel FOR VICTORY BY RETURNING EMPTY DRUMS PROMPTLY.

Reed Describes Some Things That Can Help Serviceman To Best Use His Time

(Concluded from Page 16, Column 5)

kets, restaurants, etc., are expected to be down for an extended period during the hottest weather and one out of three homes will be without adequate refrigeration for an extended period.

When the survey was made some few weeks ago (and in the winter time, which is the slack season for service) the average service agencies were two weeks behind on their service calls. It must be much worse now, and will be still worse in July and August.

The survey indicated that service agencies would be able to handle only about 65% of the work this coming season. This means that with service men working even longer hours than during peace times (70 to 90 hours per week are common), about ⅓ of the service just won't get done.

The percentages given above are nationwide averages. In many areas the figures show a far worse condition. Many of the replies cited cases of breakdowns last summer that resulted in a great deal of food spoilage, too numerous to be repeated here, but indicating food loss, impairment of public health and loss of work hours of alarming proportions this summer unless something is done quickly.

Refrigeration service is a peculiar trade. The refrigeration service engineer must be somewhat of an electrician, plumber, carpenter and all-around mechanic, plus having a highly specialized knowledge of refrigeration processes, properties and circulation of air and some knowledge of the products he deals with—foods, beverages, etc. A beginner is just in the way for the first six months, and two years experience is the minimum for domestic service and double that for diversified commercial service. Thus the refrigeration industry must depend on and keep our men and if possible get back some of those lost to other activities.

In considering what can be done to help this situation we should first be sure that we service men are doing everything we can to work most effectively. Here are a few suggestions that may help:

(1) Do the most essential service first; blood plasma, hospitals, industrial processing, wholesale and retail food storage, dairies, institutions and homes, and then if there is any time left, water cooling, beverage cooling, comfort air conditioning and similar less essential installations.

(2) Plan your work so as to avoid loss of time in back-tracking.

(3) Carry plenty of tools with you so that you will have the right tool for the job, and so you will not have to go back to the shop for a necessary tool. Keep your tools in good condition.

(4) Try and anticipate, insofar as it is possible what material or parts you will need on a service call, and if possible pick up material for several repair jobs on one call at your jobbers.

(5) Require of your customer that he give you as much information over the phone as he is able. It may save you a trip entirely or an extra trip to the shop for parts.

(6) Use unskilled help wherever possible, to save the time of skilled mechanics.

(7) Refuse calls for noisy operation or similar minor reasons unless it appears that the equipment may be further damaged.

(8) Use recording pressure gauges if you have them. They save time by showing you what has happened over a period of hours instead of your losing time watching the operation.

The lack of skilled refrigeration service engineers is beyond the critical stage, and further depletion of the already insufficient manpower will have grave consequences on the national well being. But even retaining the present personnel is not enough. Those who have left for other activities must be attracted back.

A flow of farm labor has now turned back to the farm as a result of defering skilled farm labor. The same will be true of the skilled refrigeration service engineers who can be of most value to the war effort by returning to the work in which they are experienced and in which they are desperately needed, if the selective service system will recognize the urgency of the situation and liberalize its attitude toward induction of refrigeration service engineers.

The survey indicates a serious situation that is already upon us but which will become worse during the coming hot months. It is as idle to say that years ago we did without mechanical refrigeration and that we can do so now as it would be to expect workers in war plants to walk or ride horseback to and from their jobs as workers did years ago. Present day society is geared to a different manner of life from pioneer days or even the day nineties. Production, processing, transportation, wholesale and retail handling and even home storage of perishable food, many of which, such as meats, fish, milk, eggs and many vegetables and fruits, which are staple in our diets, absolutely depend on mechanical refrigeration. Production of planes, tanks, guns and other modern war implements is dependent upon modern processes using mechanical refrigeration.

We would like to disbelieve the stark truth revealed by the survey but we are compelled to face the realization that there is but scant hope but that this summer will see thousands of tons of badly needed foods lost by spoilage, thousands of hours of essential workers lost because of sickness due to eating tainted food and an increased burden on already overburdened doctors, nurses and hospital facilities, not to mention the damage to public morale; and all because of the lack of a comparatively small number of refrigeration service engineers to keep in operation the equipment for preserving the nation's perishable food. The ones that are left can't even do the job—they must have help from their former buddies and to further thin their ranks is pure folly.

The Refrigeration Service Engineer's Society believes that the situation is of sufficient gravity as to merit consideration and early action by the very highest officials in the land, those who establish policies to be handed down to and followed by others who effectuate the policies and many of whom realize, just as we in the industry realize, that the matter demands immediate action but who are powerless to act contrary to established policies and routines. These are plain words but the urgency demands plain speaking and prompt action if we are to avert this coming crisis in refrigeration service.

Century Electric '42 Net Was $462,079

NEW YORK CITY—Century Electric Co. reports a net income of $462,079 for 1942 compared to $659,738 in 1941. Net sales are reported to exceed $11,000,000 in 1942.

Special Directive on Deliveries Given on Brass Mill Products

WASHINGTON, D. C.—Special Directions under CMP Regulation No. 1 have been issued to copper wire mills and brass mills, stating that products approved by WPB for delivery during April may not be displaced in mill production schedules by any other orders, including authorized controlled materials orders, notwithstanding any provisions in CMP Regulations, unless specific directions to the contrary are issued.

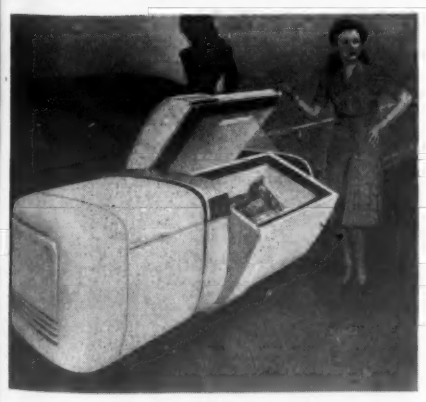
Direction No. 3 (copper wire mills), and Direction No. 4 (brass mill products) embody these instructions.

Direction No. 4 further states that in the case of brass mills, authorized controlled materials orders for May and June deliveries (for other than Navy and Army Ordnance programs designated N-1, O-1, and O-4) must be accepted up to 100% of production directives issued with respect to such programs. If no special production directives have been issued, brass mills are required to accept such orders up to 100% of capacity. Production of these orders, under Direction No. 4, must be in accordance with CMP Regulations, and all orders so accepted must be reported to the WPB Copper Division.

Orders bearing the program symbols N-1, O-1, and O-4 for May and June delivery are to be accepted and produced only in accordance with detailed instructions which will be issued to each brass mill.

HEALTHFUL LIVING THROUGH FROZEN FOODS

..A forecast of YOUR Future in Post-War Refrigeration . . .



In the eyes of War workers at Ben-Hur, there's a steady glint of determination, as they labor the clock 'round producing the weapons of war . . . Behind that determination is a two-fold purpose—to help win this war FAST; and to prepare for new progress after the war.

But your future and ours waits on speeding up war production NOW. When Victory comes, we'll be ready with "Prophesy," Ben-Hur's promised contribution to your Post-war Refrigeration.

. . remember

BEN-HUR

FARM LOCKER PLANTS

Established in 1910

BEN HUR MFG. CO.

134 E. KEEFE AVE. • MILWAUKEE, WIS.

Official U. S. Navy Photo

U. S. NAVY'S Seabees learn REFRIGERATION

THE official U. S. Navy photo above shows a refrigeration class at the Naval Construction Training Center near Norfolk, Virginia. Training of refrigeration specialists is greatly facilitated by the visual demonstrator of the refrigeration cycle.

The Seabees shown are following the instructions of Chief Shipfitter W. A. Edwards, who is pointing to the "mock-up" of the Carrier circuit. All men selected from Seabee battalions for special training in operation and maintenance of refrigeration equipment have been previously enlisted and rated on the basis of their civilian experience in the mechanical refrigeration field.

Carrier refrigeration and air conditioning first went to war in World War I. Today, the control of air temperature, humidity and circulation of cleaned air is provided by Carrier equipment and technique for Army camps, Navy bases and war production.

Users of Carrier equipment will find their nearby Carrier Branch Office or distributor ready to cooperate in every way to help keep present equipment operating efficiently and economically for the duration. Mail the coupon for a copy of the helpful booklet: "Civilian Conservation of the B.T.U."

★

CARRIER CORPORATION, Syracuse, N. Y.

CARRIER CORPORATION
Desk 12-D
Syracuse, N. Y.
Please send copy of booklet "Civilian Conservation of the B.T.U.," telling how to keep air conditioning and refrigeration equipment operating for the duration.

Name.....

Company.....

Address..... City.....

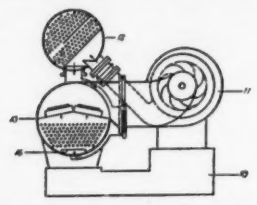
This most coveted honor, the Army-Navy "E", was awarded to Carrier Corporation for continued excellence in war production.

Carrier
AIR CONDITIONING
REFRIGERATION

PATENTS

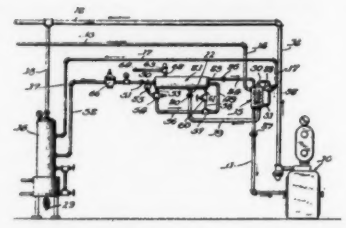
Weeks of March 28 & 30

2,314,402. REFRIGERATION. Walter Jones, Princeton, N. J., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application June 20, 1940, Serial No. 341,513. 5 Claims. (Cl. 62—115).



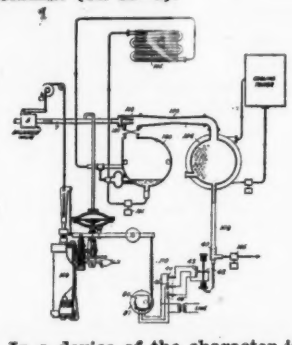
3. In a refrigeration system of the character described, a shell structure, a tube bundle within the structure, means for passing a fluid through the tubes, means for routing refrigerant in contact with the outside surfaces of the tubes, each tube having extended surfaces in the form of fins extruded from and extending from the outside thereof, said surfaces extending approximately one-sixteenth inch in height from the tube and forming an aggregate outside surface bearing a ratio with respect to the inside surface of the tube of over two to one, said tubes being interpositioned in stacks between an intake opening and a discharge opening whereby a low pressure refrigerant having a high specific density will be in turbulent condition substantially throughout the bundle and be substantially free of submergence losses.

2,314,516. OIL SEPARATOR FOR REFRIGERATION SYSTEMS. Harry A. Phillips, Chicago, Ill. Application Aug. 14, 1941, Serial No. 406,787. 7 Claims. (Cl. 62—115).



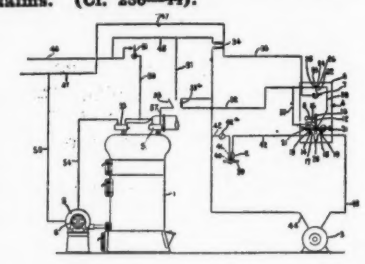
1. A refrigerating system including a liquid refrigerant supply line and a return line for the expanded gaseous refrigerant, a cylindrical member interposed in the liquid refrigerant supply line, said member having end walls to thereby form a container which is adapted to receive and deliver liquid refrigerant, means within the cylindrical member providing a trap for separating any oil from the said liquid refrigerant, a refrigerating coil located within the cylindrical member, the inlet end of said refrigerating coil having connection with the member so as to receive the oil separated by the trap and also any liquid refrigerant admixed therewith, the opposite end of the refrigerating coil having connection with the return line for the expanded gaseous refrigerant, and a back pressure valve interposed in the said connections joining the refrigerating coil with the return line, whereby a predetermined pressure can be maintained in the refrigerating coil.

2,314,524. COOLING SYSTEMS. Paulsen Spence, East Orange, N. J., assignor to Spence Engineering Co., Inc., Walden, N. Y., a corporation of New York. Application June 28, 1940, Serial No. 342,876. 10 Claims. (Cl. 62—2).



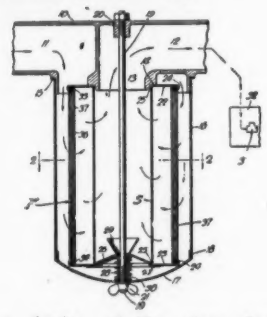
1. In a device of the character indicated, a chamber to be evacuated, a steam ejector for evacuating said chamber, a condenser for condensing steam and vapors from said steam jet ejector, a valve for controlling the admission of steam to said steam jet ejector, and means actuated in proportion to the vacuum in said chamber for controlling said valve, said means including means for moving said valve to vary the quantity of steam admitted thereby by increments substantially along a square root curve for equal increments of vacuum change.

2,314,558. APPARATUS FOR AND METHOD OF AIR CONDITIONING. Philip Sherman Russel, Detroit, Mich., assignor to Detroit Lubricator Co., Detroit, Mich., a corporation of Michigan. Application May 14, 1935, Serial No. 21,353. 25 Claims. (Cl. 236—44).



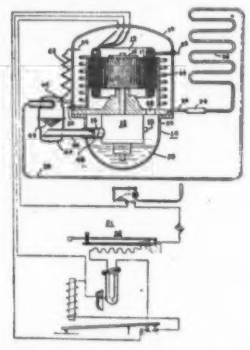
1. The method of controlling the moisture content of the air in a room or other enclosed space which comprises raising the moisture content of the air in the room substantially to the dew point of the outdoor atmosphere for all outdoor temperatures below a predetermined degree of temperature, and discontinuing the supply of moisture to the air for outdoor temperatures above said predetermined degree whereby to maintain the room air at the highest possible relative humidity during outdoor temperatures below said predetermined degree without substantial precipitation of moisture from the room air upon a window pane or other heat transmitting room wall surface.

2,314,573. AIR CLEANER. George N. Clark and Ernest R. Lesage, Denver, Colo. Application Aug. 2, 1940, Serial No. 349,559. 12 Claims. (Cl. 183—73).



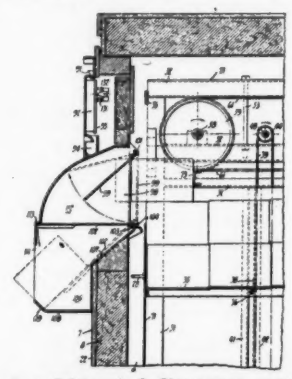
1. In a device of the class described, spaced circular ring supports, one above the other, spacing means between said supports and forming with them a skeleton cylinder, and yarn wrapped about the supports to form upwardly extending circular concentric walls of strands that are substantially parallel, the strands of each wall being in contact.

2,314,591. REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application June 20, 1940, Serial No. 341,516. 11 Claims. (Cl. 62—115).



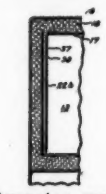
1. In combination, an evaporator, a compressor having an inlet and an outlet, a condenser, first refrigerant flow means between said condenser and said evaporator, second refrigerant flow means between said evaporator and said compressor, refrigerant flow means between said compressor and said condenser, a chamber in said second refrigerant flow means, means preventing the flow of refrigerant from said chamber to the outlet of said evaporator, means preventing the flow of refrigerant from the inlet of said compressor to said chamber, and means forming an unloader to passage providing a restricted refrigerant flow connection between the outlet of said compressor and said chamber.

2,314,632. REFRIGERATED DISPENSER. James C. Rear, Berkeley, Calif., assignor to the Union Ice Co., San Francisco, Calif., a corporation of California. Application Dec. 10, 1940, Serial No. 369,373. 8 Claims. (Cl. 312—36).



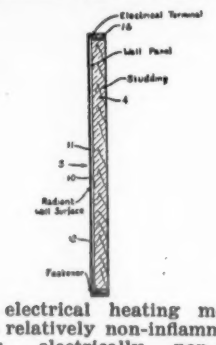
5. A refrigerated dispenser comprising a cabinet having a discharge opening, an elevator platform mounted within said cabinet for rising movement toward said opening and adapted to support a plurality of horizontal tiers of similar packages, a projecting means mounted within said cabinet for advancing movement to push a tier of said packages through said aperture, and means for operating said elevator platform and said projecting means in synchronism whereby said projecting means pushes each tier of said packages through said aperture as said elevator platform lifts the height of each one of said plurality of tiers of said packages.

2,314,657. REFRIGERATOR. Rollin H. Norris, Schnectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Jan. 26, 1940, Serial No. 315,796. 10 Claims. (Cl. 220—9).



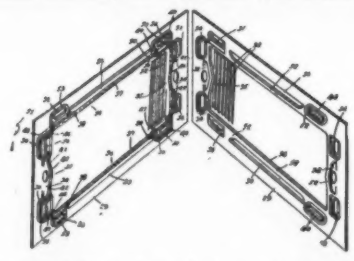
1. In a refrigerator wall construction of the type comprising inner and outer spaced-apart shells of substantially impervious material and having heat insulating material disposed between said shells, a breaker strip connecting together said edges of said shells and defining a door opening, and a door for closing said opening, said inner shell defining a storage compartment, means for minimizing the amount of moisture carried into the insulating material by air forced from said storage compartment into the space between said shells during periods of breathing, said means comprising a chamber disposed between said shells and which is free of insulation, said chamber including walls formed of a substantially impervious material and communicating only with the interior of said storage compartment and said space between said shells, respectively, at separated points, the distance between said points being sufficiently great that moisture in the aid entering said chamber diffuses out through the point of communication with said storage compartment before air passing through said chamber attains the dew point, and means effective to maintain moisture condensing in said chamber out of said insulating material.

2,314,766. SURFACE HEATING ELEMENT. Arthur W. Bull, Grosse Pointe, and Glenn G. Havens, Detroit, Mich., assignors to United States Rubber Co., New York, N. Y., a corporation of New Jersey. Application April 17, 1940, Serial No. 330,054. 10 Claims. (Cl. 219—19).



6. An electrical heating means comprising a relatively non-inflammable heat-insulating, electrically non-conducting support carrying a substantially continuous flexible, substantially non-cracking coating of electrically conductive plastic composition containing electro-conducting carbon in amount capable of liberating substantial and useful amounts of heat energy when generated therein by conversion of electrical energy, and means for completing an electrical circuit with said coating including spaced metal conductors of different polarity contacting said coating along a substantial length thereof whereby to distribute electrical energy over a comparatively wide area of said coating for conversion therein into thermal energy.

2,314,966. PLATE HEAT EXCHANGER. William Astle, Chicago, Ill. Original application March 29, 1937, Serial No. 133,621. Divided and this application Aug. 23, 1940, Serial No. 353,967. 9 Claims. (Cl. 257—245).



9. A plate and gasket construction for use in a heat exchange apparatus of the juxtaposed plate type comprising a sheet metal heat exchange plate embossed to provide portions lying in offset parallel planes, a plate gasket for bounding the film flow space along a face of said plate, and a transfer port gasket bounding the liquid flow passage between a pair of

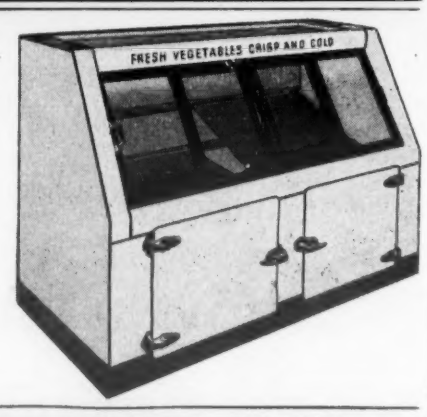
(Concluded on Page 19, Column 1)

Write for our 144 page catalogue on your letterhead.

THE HARRY ALTER CO.
1728 S. Michigan Ave. Chicago, Ill. | Two Big Warehouses to Serve You | 134 Lafayette St. New York, N. Y.

TRY TYLER

Tyler's amazing progress in recent years represents a trend that will continue in the future. Investigate the profit possibilities for Tyler distributors; tie up with Tyler for long-swing prosperity. Write today. TYLER FIXTURE CORP., NILES, MICH.



Mechanical Refrigeration
The Watchdog of the Nation's Food Supply
LARKIN
REFRIGERATION PRODUCTS
USE LARKIN
Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—
LARKIN COILS, INC.
519 MEMORIAL DR., S. E., ATLANTA, GA.

Quick Service on HASCO REBUILT PARTS

● Ready to ship, over 225 HASCObilt parts and supplies give service equal to new equipment at fraction of cost. Conserve critical materials and give speedy service at saving to you and your customer! Parts supplied ready to install. Be prepared, be informed regarding HASCO Service. Have the HASCO catalog at hand for ready reference.

Send for Illustrated Catalog and Price List

HASCO, INC.
GREENSBORO, N. C.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge, $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

EQUIPMENT WANTED

WANTED: Used Commercial Refrigeration and Air Conditioning. Also new or used stokers. THE BIMEL CO., 305 Walnut St., Cincinnati, Ohio.

EQUIPMENT FOR SALE

WANT DRY beverage coolers, ¼ to 3 H.P. condensing units, ice cream and frosted food cabinets, forced convection coils, valves, etc. From distributors or dealers. Have buyer in East now. Airmail or wire UNITED COMMERCIAL SALES CO., 925 South Grand Ave., Los Angeles, Calif.

CARRIER CONDENSING UNITS. Brand new air-cooled; complete with A.C. motor and control. Packed in original crates. ¼, ⅓ and ½ HP. General Electric Motors. Brand new cradle base ½ HP. A.C. 110-220 volt. 1725 RPM. Available for immediate shipment. No priorities necessary. GENERAL REFRIGERATORS CORP., 678 Broadway, New York, N. Y.

EXPANSION COILS, 4, 5 trays, $2.00, $2.25; ⅓, ½ hp. Air-Cooled Condensers, 26" long, 13" high. Double row—26 tubes, $6.00; ⅓, ½ hp. 2-cylinder Frigidaire Compressors, $7.00; Carbon Tetrachloride, 5 gallon cans, $7.50, while they last f.o.b. New York. EDISON COOLING CORP., 310 E. 149th St., New York City.

75 CROSLEY ¼ hp. refrigerated portable air conditioners; 50 Honor Brand Frosted Food Cabinets; 250 Crosley absorption type (icy ball) refrigeration units; display cases; fountains; household and commercial refrigerators; also large stock of electrical appliances. INTERSTATE, 600 Broadway, New York City, Walker 5-2755.

FARM FREEZER: Immediate delivery. Quantity 2 and 4 hole cabinets with 60 cycle 110 volt units. Excellent condition. Standard make. Box 1444, Air Conditioning & Refrigeration News, Detroit, Mich.

For 1943 — most complete range of styles and sizes — 12 to 71.5 cu. ft. — in the industry. New modern styling — priced for real value.
Reach-in CABINETS
Midwest Mfg. Company
GALESBURG, ILLINOIS

AMINCO OIL SEPARATORS
1-3 h.p. to 120 Tons
American Injector Company
1481 14th Avenue, Detroit, Mich.

MASTER FOOD CONSERVATORS
have the call. This Modern Food Conserver has many unusual advantages. Sold through distributors of refrigeration and insulation.
Get our proposition
MASTER MANUFACTURING CORP.
121 Main St. Sioux City, Iowa

REPAIR OR EXCHANGE POLICY
Refrigeration Hermetic Units
Compressors, and Parts.
G.E. WESTINGHOUSE, GRUNOW, MAJESTIC
WHOLESALE ONLY
Write for Catalog on Your Letterhead
SERVICE PARTS CO.
3511 LAKE STREET MELROSE PARK, ILLINOIS

HEAT TRANSFER EQUIPMENT
MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

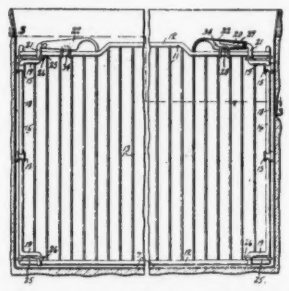
Continental FARM LOCKER PLANT
SANITARY REFRIGERATOR CO.
FOND DU LAC. ★ WISCONSIN

Patents (Cont.)

(Continued from Page 18, Column 5)

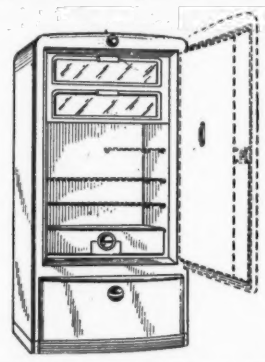
film flow spaces, one face of said plate gasket lying against the obverse face of one of said offset portions, one face of said port gasket lying against the reverse face of the other offset portion, at least a portion of each gasket lying between the parallel planes bounding said offset portions, said plate being formed to provide a shoulder lying against the inner edge of said plate gasket throughout the major portion of the length of the gasket, and having its film flow space embossed to provide corrugations extending transversely of the film flow, said corrugations having their major portions lying between said planes.

2,315,053. SHELF, ESPECIALLY FOR REFRIGERATORS. Robert Lay Hallock, Larchmont, N. Y. Application June 13, 1940, Serial No. 340,271. 9 Claims. (Cl. 211—153).



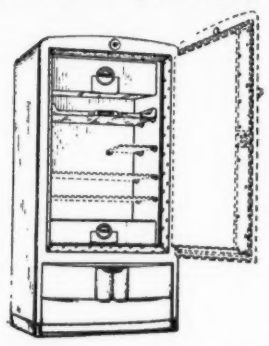
1. A shelf organization including a shelf slab having a horizontal part and vertical side members, means for supporting the shelf slab at different elevations including a side wall and an element pivotally mounted on said side wall so as to be turnable from a vertical position to a horizontal position, and a latch pivoted on said element and adapted to hook over said horizontal part when such turnable element is in its horizontal position, and to hook over one of said side members when said turnable element is in its vertical position.

135,275. DESIGN FOR A REFRIGERATOR. Richard B. Janes, Greenville, Mich., assignor to Gibson Electric Refrigerator Corp., Greenville, Mich., a corporation of Michigan. Application May 19, 1942, Serial No. 106,952. Terms of patent seven years.



The ornamental design for a refrigerator, substantially as shown and described.

135,274. DESIGN FOR A REFRIGERATOR. Richard B. Janes, Greenville, Mich., assignor to Gibson Electric Refrigerator Corp., Greenville, Mich., a corporation of Michigan. Application May 19, 1942, Serial No. 106,951. Term of patent seven years.

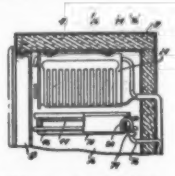


The ornamental design for a refrigerator, substantially as shown and described.

2,315,221. REFRIGERATING APPARATUS. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application April 25, 1939, Serial No. 269,997. 2 Claims. (Cl. 62—103).

1. Refrigerating apparatus comprising a cabinet having a compartment, a refrigerant evaporating element for cooling said compartment, a compressor, a condenser connected to said compressor, a storage receptacle for foods to be refrigerated, a tray cover for the receptacle for collecting moisture from the evaporating element, and means for conducting said moisture from said tray cover to a point between the compressor and the condenser in thermal contact with the refrigerant passing from the compressor to the condenser.

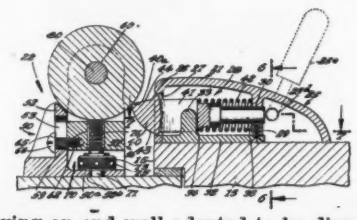
2,315,222. REFRIGERATING APPARATUS. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Original application April 25, 1939, Serial No. 269,997. Divided and this application Dec. 6, 1940, Serial No. 368,847. 1 Claim. (Cl. 62—103).



Refrigerating apparatus comprising a cabinet having a compartment, a refrigerant evaporating element for cooling said compartment, a removable deep pan for the storage of meats and the like, slideways for slidably supporting said pan below said element, said pan also serving to collect defrost water from said element when it is defrosted, an outlet adjacent the lower part of said pan for receiving and conducting said water outside said pan, and conduit means positioned in said compartment for receiving said water from said outlet when the pan is placed in a certain position and including a portion for conducting said water out of said compartment, said conduit means being positioned so as not to interfere with the sliding removable of said pan.

2,315,337. REFRIGERATOR DOOR FASTENER. David Katz, Brooklyn, N. Y. Application May 14, 1940, Serial No. 335,024. 2 Claims. (Cl. 292—74).

1. A latch adapted to be attached to a door, and comprising a housing member

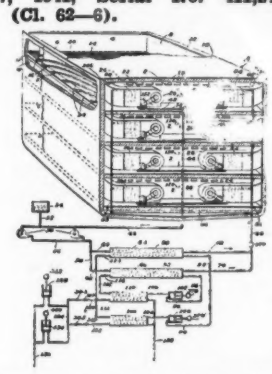


having an end wall adapted to be disposed adjacent the edge of the door, and a cavity open on the side of said member toward the door, and flanges adapted to contact the door provided with openings to receive fastening means for attaching said member to the door, said member being formed with a transverse partition within said cavity parallel to said end wall and spaced therefrom and formed with an opening aligned with the opening in said end wall, said partition having an end edge disposed within said cavity and spaced back from the surfaces of said member which are adapted to contact the door, and a flat plate fitted within said member to close the space between the partition and the end wall and contacting the edge of said partition, means to attach said plate to said partition, a bolt slidably mounted within said member and having a portion projecting through the opening in the end wall, and a shank slidably received within the opening in said partition, a spring interposed between said partition and an enlarged portion of the bolt, and disposed within the space between the partition and end wall, said bolt being formed with an opening, and said plate being formed with a projection extending into said opening.

2,315,364. REFRIGERATION. Curtis C. Coons, North Canton, Ohio, assignor to the Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Aug. 20, 1938, Serial No. 225,873. 21 Claims. (Cl. 62—119.5).

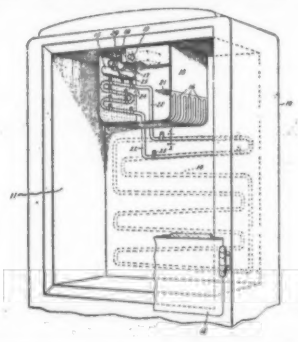
21. An absorption refrigerating apparatus comprising, a boiler normally filled with a solution of refrigerant in an absorbent, a jacket spaced from and surrounding said boiler, said boiler having an internal flue extending therethrough and communicating with said jacket at one end, and means for heating said boiler by means of a combustible fuel burning in said flue, whereby the products of combustion are led through said flue in one direction and reversely over the exterior of said boiler.

2,315,379. PRESERVING PERISHABLES. Hector Harris Robson, Scarsdale, N. Y., assignor to United Fruit Co., Boston, Mass., a corporation of New Jersey. Application Sept. 17, 1941, Serial No. 411,240. 22 Claims. (Cl. 62—6).



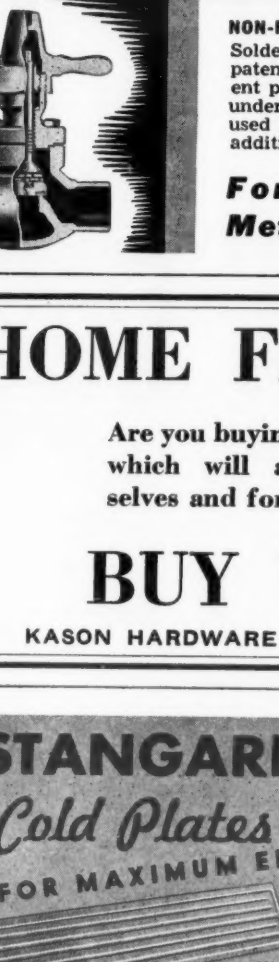
1. Apparatus for preserving perishables in a cargo compartment comprising the combination of means for changing the air in the compartment by withdrawing it therefrom and returning it thereto through the cargo, cooling apparatus for lowering the temperature of the air delivered to the cargo, a refrigerant flowing through said apparatus, means for cooling said refrigerant, means responsive to the temperature of air delivered to the cargo for regulating the rate of flow of the refrigerant through said apparatus, means responsive to the temperature of air withdrawn from the compartment for regulating the rate of air change in the compartment, and means responsive to the temperature of the refrigerant for regulating the capacity of said refrigerant cooling means.

2,315,460. REFRIGERATING MACHINE. Carl H. Steenstrup, Schnectady, N. Y., assignor to General Electric Co., a corporation of New York. Application July 7, 1942, Serial No. 449,979. 8 Claims. (Cl. 62—125).



1. A refrigerating machine including a cabinet, a primary cooling element for cooling one portion of said cabinet, a secondary cooling element arranged in heat exchange relationship with said primary element for removing heat from another portion of said cabinet, means dependent upon the temperature of said primary element for controlling the operation thereof, and means dependent upon a load demand on said secondary element for modifying the operation of said temperature dependent means.

135,332. DESIGN FOR A REFRIGERATOR. Egmont Arens, New York, N. Y. Application Feb. 3, 1943, Serial No. 109,413. Terms of patent seven years.



The ornamental design for a refrigerator, substantially as shown.

Seamless PENN BRASS and COPPER TUBING
PENN BRASS & COPPER CO. ERIE, PENNA.

UNIVERSAL COOLER
MARION, OHIO — BRANTFORD, ONTARIO
WE SELL TO MANUFACTURERS ONLY
UNIVERSAL COOLER CORPORATION
Automatic Refrigeration since 1922

RECOLD COILS — WATER-DEFROST
U.S. PAT. 2,219,393
REFRIGERATION ENGINEERING Inc.
LOS ANGELES - CALIFORNIA

BUNDY TUBING
ENGINEERED TO YOUR EXPECTATIONS
BUNDY TUBING CO., DETROIT

ALCO Specify ALCO Engineered Refrigerant Controls for Maximum Performance
ALCO VALVE CO. ST. LOUIS, MO.

CHARGED DAVISON'S IN SILICA GEL WITH — Specify DRYERS THAT BEAR THIS LABEL
Ask your Jobber

Electrimatic
Automatic Control Valves and Regulators
2100 Indiana Ave., Chicago, Ill.

DOLE
VACUUM PLATE COOLING & FREEZING UNITS
CHICAGO

REFRIGERATION PRODUCTS
fedders
BUFFALO, N. Y.

PAR COMMERCIAL REFRIGERATION UNITS FOR PROTECTION OF VITAL FOOD SUPPLIES
See Your Par Jobber
LYNCH MANUFACTURING CORP.
DEFIANCE, OHIO, U.S.A.

WAGNER MOTORS for All War Needs
Send For Bulletins MU-182 and MU-183. They contain valuable motor information.
Wagner Electric Corporation
6441 Plymouth Avenue, Saint Louis, Mo., U.S.A.

THE EMBLEM OF QUALITY
EBCO Electric Water Coolers
WRITE FOR DETAILS
The EBCO Manufacturing Company
401 W. TOWN STREET — COLUMBUS, OHIO

VISOLEAK
SAVES time—SIMPLIFIES leak detection problems — CONSERVES refrigerant.
VISOLEAK reveals "hard to find" leaks of all refrigerants. Add 4 oz., plus an extra ounce for each 10 lbs. of refrigerant, to system.
4 ounces, $1.00; 8 ounces, $1.75. Pint, $3; Quart, $5; Gallon, $16.
Buy from your jobber or write to
Western Thermal Equipment Co.
5141 Angeles Vista Blvd. - Los Angeles, Calif.

PURO ELECTRIC WATER COOLERS
Different models available for the various requirements of government agencies and war production plants.
PURO FILTER CORP.
440 Lafayette St., New York
DRINKING WATER SPECIALISTS FOR 40 YEARS.

POLARTRON
PRESSURE AND TEMPERATURE CONTROLS
Extra features equivalent to 32 or more Special models are STANDARD in every M-H Polartron.
MINNEAPOLIS-HONEYWELL REGULATOR CO.
Refrigeration Controls and Control Systems
The Symbol of Modern Refrigeration Control

Henry
Wing Cap Valve . . . TYPE 203
NON-FERROUS ALLOY MEETS GOVERNMENT SPECIFICATIONS
Solder connections machined directly in valve body. Has patented rotating self-aligning tapered stem-disc. Resilient packing. Valve is back-seating, permitting repacking under pressure. Wing cap can be inverted and its socket used to operate valve Cap sealing on bonnet provides additional protection against leaks. Unrestricted flow
For Freon and Methyl Chloride
HENRY VALVE CO.
1001-19 N. SPAULDING AVE. CHICAGO, ILLINOIS

HOME FRONT
Are you buying your share in the Victory which will assure freedom for ourselves and for the generations to come?
BUY WAR BONDS
KASON HARDWARE CORPORATION, BROOKLYN, N. Y.

STANGARD PRIME SURFACE Cold Plates
FOR MAXIMUM EFFICIENT REFRIGERATION
★ FOR Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.
Write us today for complete information and catalog
STANGARD-DICKERSON CORP.
46-76 Oliver Street — Newark, N. J.
Specialists in the Manufacture of all types of COLD PLATES
Stangard facilities are contributing to the production of materials for our National Defense

Ranco
SIMPLICITY
ACCURACY
DURABILITY
Those are the three characteristics that are outstanding in Ranco Replacement Controls. They are worth repeating . . . Simplicity, Accuracy and Durability.
Ranco Controls are compact in design with superior ability in maintaining accurate temperature settings over a long period of years. Field checks of thousands of installations show that they are practically trouble-proof.
Ask your jobber about the available models.
ARMY E NAVY
Ranco INC.
COLUMBUS, OHIO

CMP 'Repair Ratings' Meant to Maintain Productive Items

(Concluded from Page 1, Column 5)

designed to assure continued production in manufacturing plans by maintenance and repair of machinery, and that in the majority of cases, automotive maintenance equipment does not fulfill this purpose.

The fundamental distinction to be made about these ratings, it was declared by William S. Vaughn of the Engineering Board of Review of the Controlled Materials Plan Division of WPB, speaking before the Refrigeration Industry Wartime Conference in Chicago, is that they can be applied only for maintenance, repair, and operating supplies to keep a factory or repair shop facilities in operation —but never for the repair of a product of the factory or a customer's item that is being worked on in the repair shop.

Such maintenance, repair, and operating supplies are assigned ratings are for use only in keeping in operation equipment in the plant and to promote sound operating conditions. Such items as boxes, printing supplies, and office and machinery supplies are not eligible for the rating, Mr. Vaughn stated.

Manufacturers of refrigeration equipment will get a AA-1 for their "MRO" needs, and a AA-2X will be assigned to the maintenance and repair needs of service shops, to be applied to their own facilities only.

An "allotment" of controlled materials, it was explained, is a statement that you are authorized to buy specific amounts of materials.

"Allotment numbers" are a series of digits which when decoded indicate production end use and also materials scheduling programs.

The "allotment symbol" must be shown on the purchase order, together with the certification that you are entitled to use it.

A preference rating backed up by an allotment symbol takes on a little more weight, but doesn't push the preference rating scale entirely out of order. For example, a AA-2X with an allotment symbol is better than a AA-2X without one, but is still not as potent as a AA-1x rating without an allotment symbol.

Philco '43 War Output 'Eight Times Greater'

PHILADELPHIA — Philco Corp.'s production of radio and electronic equipment and other war materials increased substantially in the first quarter of 1943, as compared with the last three months of 1942, James T. Buckley, president, stated following annual meeting of the company.

"Philco's output of war goods in the first quarter of 1943 was eight times as great as it was in the corresponding period last year," Mr. Buckley said. "Present indications are that output will be further expanded in coming months.

"It might be of interest to point out that Philco has made a special effort to subcontract a considerable part of its war work to give the broadest possible application to its own engineering production facilities. In this way, use is made of the production abilities of a large number of smaller companies, many of which do not have direct Government contracts, and the amount of equipment provided for the Army and Navy is increased."

"DAY & NIGHT"
A Complete line of Storage Type Water Coolers in accordance with Latest W. P. B. Regulations
DRINKING FOUNTAINS
NAVY-2 Models for Shipboard use
ARMY-NAVY-2 Models for land use
CAFETERIA TYPE COOLERS
ARMY-NAVY 2 Models for Mess Halls
INSULATED STORAGE TANK TYPES
6 Models for Bakery Service • 3 Models for Film Processing •
WRITE FOR LATEST DATA
DAY NIGHT COOLER DIVISION
DAY & NIGHT MFG. CO.
MONROVIA • CALIFORNIA
FACTORY REPRESENTATIVES
NEW YORK — A. C. Homeyer, 682 Bdwy. • CHICAGO — Marc Shantz, 565 Wash. Blvd.
ST. LOUIS — R. H. Spangler, 3331 Market St. • DECATUR, GA. — I. E. Parker, 228 2nd St.

New Allowances Added On Household Units

(Concluded from Page 1, Column 5)

ized effective May 1, by ordering their requirements on or before April 24, 1943, and specifying shipment before May 1, 1943, in which case the $5 per refrigerator warehousing charge may not be added regardless of when shipment is actually made. The order need not necessarily be received by the manufacturer or distributor before April 24. It is enough if it is postmarked on or before that date and is supported by a WPB certificate of authorization to purchase.

This action has been taken following requests by manufacturers and distributor for assistance in meeting mounting warehousing expenses brought on by the freezing of stocks by the government.

Under War Production Board Order L-5-b, stocks of new mechanical domestic refrigerators were frozen on Feb. 14, 1942. Subsequently WPB released nearly 250,000 units for sale to consumers. The first release of 100,000 units was made in September, 1942. The second release came this month for 148,852 units.

OPA will authorize this action formally by amending Revised Price Schedule No. 102 (Household Mechanical Refrigerators), which governs ceilings of manufacturers, and Maximum Price Regulation No. 110 (Resale of New Household Mechanical Refrigerators), which governs ceilings of distributors and dealers.

'Scrap Pile' System Is Aid to Segregation

MANSFIELD, Ohio—Westinghouse appliance division's system for collecting clean scrap is proving efficient, tidy, and lucrative financially, company executives reveal.

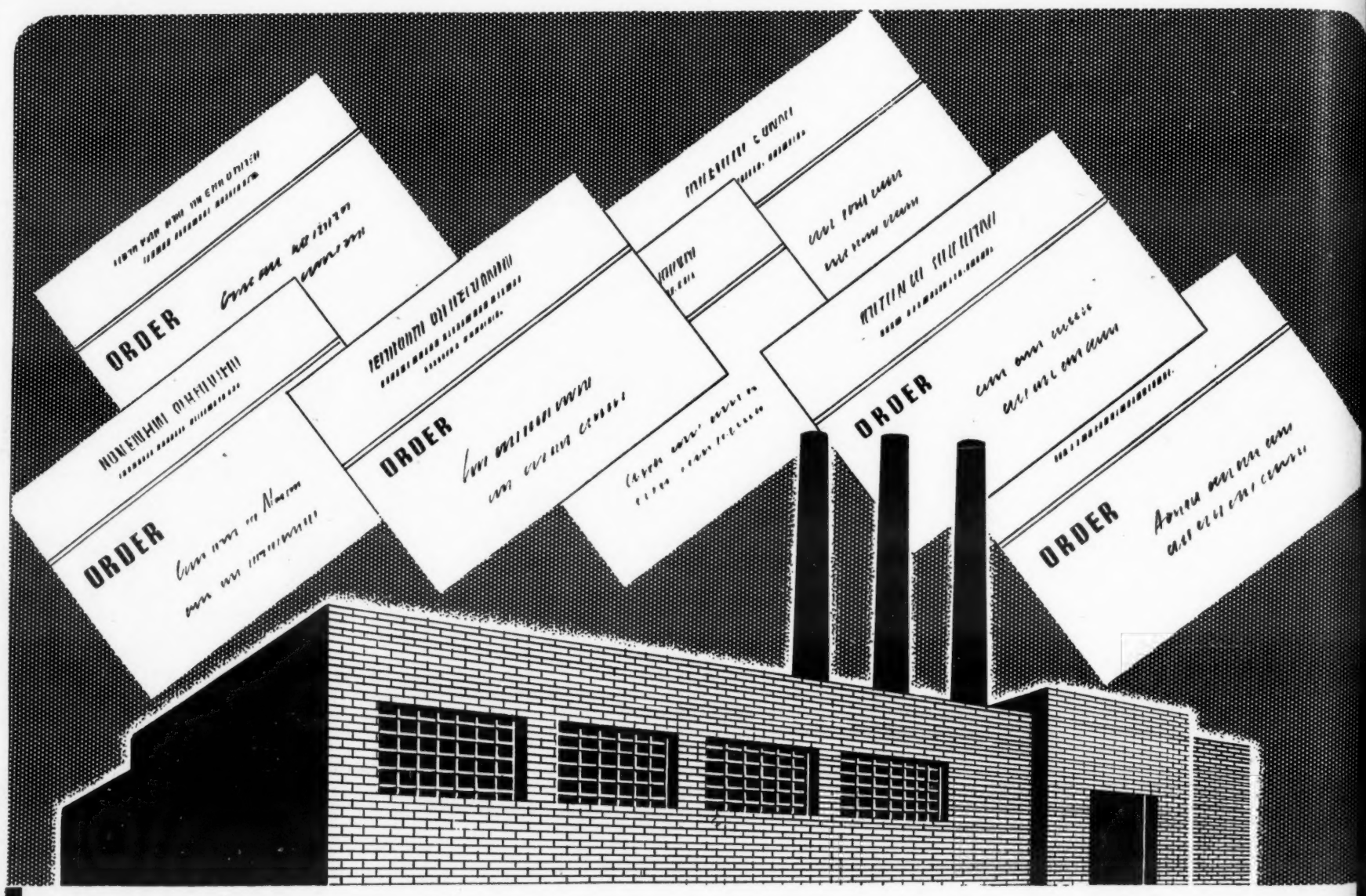
By placing bins throughout the plant at convenient spots, workmen "file" clean scrap according to name and alloy number into the right containers. Each bin is marked so there can be no mistake as to where scrap goes.

On removal from the bins, the scrap is baled and stored by classification until there is enough accumulated for collection and sale.

Producers Skeptical on Civilian Goods Increases

NEW YORK CITY — In spite of recommendations by the Office of Civilian Supply to increase production on many household items, manufacturers were reported dubious, claiming that lifting restrictions would have no effect on raising output.

They cited as example enamelware production which cannot possibly reach its quota of 50% because of lack of metal. Every manufacturer of household equipment, they believe, is stymied by shortage of materials. Hence, they do not feel at this time that lifting limitation orders will be of any particular benefit to them.



MORE ORDERS . . .

It's an old story . . . the prospector who found gold, not where he sought it, but where he had camped . . . the driller who spent a fortune looking for oil, but overlooked the obvious spot under his house. It's the old 'acres of diamonds' story . . . gold, oil, diamonds right in your own back yard.

Stop looking for business where it isn't . . . and go after it where it IS . . . today . . . NOW!

At no time in the history of automatic refrigeration has the demand for equipment been as great as it is today . . . and this demand carries with it the authority of high priority. Refrigeration is ESSENTIAL . . . essential to the health and efficiency of the men who fight . . . essential to the rapid production of war materials . . . essential to the morale and well-being of the men and women who work for victory on the home front.

The list of essential applications of refrigerating equipment in commerce, in industry, and in war itself is almost endless. And many of these orders . . . more orders than you ever sold before . . . are right in your own back yard.

I'm right in there pitching, too . . . for the duration and after . . . ready to give out with the sales suggestions, engineering data and equipment which mean more orders for YOU. MORE ORDERS NOW . . . and right in your own back yard.

Yours for cleaning up in our back yards.

PENGUIN PETE

BUSH MANUFACTURING CO.
Commercial Cooling Units
HARTFORD CONN · 415 LEXINGTON AVENUE NEW YORK · 549 W. WASHINGTON BLVD. CHICAGO